

LAPORAN TAHUNAN 2000

AKADEMI SAINS MALAYSIA

ANNUAL REPORT

LAPORAN TAHUNAN
ANNUAL REPORT *2000*

Akademi Sains Malaysia
Academy of Sciences Malaysia
902-4, Jalan Tun Ismail
50480 Kuala Lumpur
Malaysia

Tel: 603-26949898
Fax: 603-26945858
E-mail:samsudin@akademisains.gov.my
Home Page: http://www.akademisains.gov.my

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Laporan Presiden

Sukacita saya sekali lagi membentangkan Laporan Tahunan Akademi Sains Malaysia.

Akademi menempuh alaf baru sebagai sebuah organisasi yang dinamik, matang dan penuh dengan idea yang inovatif. Ia menumpukan usaha untuk mencapai, menggalakkan dan meningkatkan kecemerlangan di dalam bidang sains, kejuruteraan dan teknologi disamping menjadi sumber pengetahuan kepada negara.

Beberapa tema mewarnai tabir Akademi di tahun yang lalu dan laporan ini menumpukan sejauh mana usaha Akademi semakin berkembang dari segi skop dan kepentingan. Sepanjang tahun lepas, Akademi telah menumpukan kepada pelbagai isu dan bidang yang merangkumi dari isu-isu polisi yang kompleks dan berprofil tinggi kepada usaha meningkatkan kesedaran sains, kejuruteraan dan teknologi kepada orang ramai.

Mesyuarat Agung Tahunan Akademi yang kelima telah dilaksanakan dengan jayanya pada 22 April 2000. Akademi telah melantik enam Fellow baru yang menjadikan jumlah keseluruhan seramai 82 orang dan Akademi juga telah melantik Fellow Kanannya yang kelima iaitu Tan Sri B.C. Sekhar FASc, seorang ahli kimia terkemuka.

President's Report

I am pleased to once again present the Annual Report of the Academy of Sciences Malaysia.

The Academy approaches the new century as a vibrant, mature organization, with no shortage of innovative ideas. It is committed to pursue, encourage and enhance excellence in the fields of science, engineering and technology while serving as a beacon of knowledge to the nation.

Several themes weave the fabric of the Academy's past year and this report highlights the extent to which our work continue to grow in breadth and importance. During the past year, the Academy has focused on a wide variety of issues and areas ranging from the complex and high-profile policy issues to increasing public awareness of science, engineering and technology.

Our Fifth Annual General meeting was successfully held on 22nd April 2000. The Academy elected six new Fellows bringing the total to 82 and it also elected its fifth Senior Fellow, Tan Sri B.C. Sekhar FASc, a renowned chemist.

Memberi nasihat kepada Kerajaan dalam perkara yang berkaitan dengan sains, kejuruteraan dan teknologi adalah salah satu keutamaan Akademi. Tahun ini Akademi meneruskan Kajian Semula Polisi Sains dan Teknologi Kebangsaan, satu tugas yang diamanahkan oleh Kerajaan kepada Akademi di tahun lepas. Laporan akhir tersebut telah dimajukan Kementerian Sains, Teknologi dan Alam Sekitar pada bulan April 2000.

Sebagai sebahagian dari sesi dialog diantara Akademi dengan YB Menteri Pertanian satu mesyuarat untuk membincangkan 'agro-biotechnology', sebagai satu langkah kehadapan dalam usaha untuk meningkatkan pertumbuhan sektor pertanian telah diadakan. Akademi juga telah membentangkan laporan "Enhancing Malaysia's Agric-Food Development through Science and Technology" yang merupakan hasil dari satu seminar yang telah diadakan pada tahun lepas.

Akademi juga telah dilantik sebagai Panel Penasihat kepada National Technology Mapping Project II (NTMPII) yang diterajui oleh Perkhidmatan Rundingan Industri Malaysia Sdn Bhd (PRIMA) yang merangkumi tiga sektor iaitu industri makanan, perkayuan dan peralatan.

Providing independent advice to the Government on matters related to science, engineering and technology has always been one of the Academy's priorities. This year the Academy continues with the National Science and Technology Policy Review, a task entrusted by the Government last year. The final report was submitted to Ministry of Science, Technology and the Environment (MOSTE) in April 2000.

As part of the continuing dialogue between the Academy and the Hon Minister of Agriculture, a meeting was held to discuss agro-biotechnology, the way forward in enhancing the growth of the agriculture sector. The Academy also presented a report on "Enhancing Malaysia's Agric-Food Development through Science and Technology" which was the outcome of a seminar held last year.

The Academy has been appointed on the Advisory Board of the National Technology Mapping Project II (NTMPII) being undertaken by Perunding Industri Malaysia Sdn Bhd (PRIMA) which covers three industrial sectors namely food, wood and machinery.

Tahun 2000 juga telah menyaksikan banyak aktiviti menarik yang dilaksanakan dibawah Program Kecemerlangan Sains Akademi. Akademi telah menganjurkan persidangan antarabangsa "Pollution in Metropolitan Cities (POLMET) 2000: Sustainable Urban Development in the New Millennium" dengan ENSEARCH. Persidangan tersebut menekankan kepentingan adanya satu landasan bagi mengadakan perbincangan yang berterusan mengenai topik yang penting untuk pembangunan bandar yang lestari yang mana ini membayangkan pengukuhan semangat perkongsian pintar yang didokong oleh Malaysia.

Tahun ini adalah tahun ketiga Akademi menganjurkan program Tabung Amanah Penyelidikan Perubatan Dr Ranjeet Bhagwan Singh. Tiga orang telah dianugerahkan Geran Penyelidikan Perubatan Dr Ranjeet Bhagwan Singh yang berjumlah sebanyak RM47,000. Syarahan Memorial yang ketiga bertajuk "AIDS Epidemic and Prospects for Control" disampaikan oleh Prof David Ho, seorang saintis terkemuka mengenai AIDS dan juga Pengarah Aaron Diamond Research Centre, New York. Topik ini dipilih memandangkan perlunya saintis Malaysia didedahkan kepada perkembangan terkini didalam

The year 2000 saw many interesting activities being carried out under the Academy's Science Excellence Programme. The Academy co-organized with ENSEARCH the international conference "Pollution in Metropolitan Cities (POLMET) 2000: Sustainable Urban Development in the New Millennium". The Conference amplified the importance of having a platform for a continuous open discussion on various topics of critical importance to sustainable urban development which reflected an internalization of the spirit of smart partnership that Malaysia has been promoting.

This is the third year that the Academy organizes the programme under the Dr Ranjeet Bhagwan Singh Medical Research Fund. This year three recipients were awarded the Dr Ranjeet Bhagwan Singh Medical Research Grant totaling RM47,000. The Third Memorial Lecture entitled "AIDS Epidemic and Prospects for Control" was given by Prof David Ho, renown scientist on AIDS and Director of Aaron Diamond Research Centre, New York. This topic was chosen in view of the current need for Malaysian scientists to know the latest

bidang penyelidikan AIDS. Juga dibawah program ini, satu bengkel mengenai "Bacteria Cell-to-Cell Communication" telah diadakan di Universiti Malaya. Bengkel tersebut telah dikendalikan oleh dua pakar teknikal - Assoc Prof Kalai Mathee dari Florida International University dan Assoc. Prof Dr Zhang Lian Hui dari National University of Singapore.

Akademi juga telah menganjurkan satu syarahan umum bertajuk "Addressing the Global Infectious Disease Threats: Nipah Virus Incidence – What's Next?". Syarahan tersebut disampaikan oleh Dr Aziz Jamaluddin, Pengarah, Veterinary Research Institute dan Dr Azaibi Tamin, Penyelidik Kanan, Center for Disease Control and Prevention (CDC), Atlanta, USA.

Satu bengkel untuk memberi garispanduan dan pendedahan kepada penulisan saintifik terutamanya untuk memenuhi keperluan PORIM bagi menghasilkan kertaskerja bermutu tinggi untuk penerbitan tempatan dan antarabangsa telah dilaksanakan dengan jaya oleh Akademi dan PORIM.

Acara tumpuan dibawah Program Kesedaran Sains Akademi adalah Kuiz Sains Nasional 2000 yang pada tahun ini telah menarik penyertaan hampir seribu buah sekolah dari seluruh negara, satu peningkatan yang ketara dibandingkan degan tahun-tahun yang lalu. Penaja utama

development on AIDS research. Also under this flagship programme, a workshop on "Bacteria Cell-to-Cell Communication" was held at the University of Malaya. The workshop was conducted by two technical specialists – Assoc Prof Kalai Mathee from Florida International University and Assoc. Prof Dr Zhang Lian Hui of National University of Singapore.

The Academy also hosted a public lecture entitled "Addressing the Global Infectious Disease Threats: Nipah Virus Incidence – What's Next?". The lecture was presented by Dr Aziz Jamaluddin, Director, Veterinary Research Institute and Dr Azaibi Tamin, Senior Researcher, Center for Disease Control and Prevention (CDC), Atlanta, USA.

A workshop to provide guidelines and exposure in scientific writing and specially to cater to the need of PORIM to produce quality papers to be published locally and internationally was successfully organized by the Academy and PORIM.

The highlight of the year under the Academy's Science Awareness Programme was the National Science Quiz 2000 which attracted the participation from nearly a thousand schools from all over Malaysia, a

Kuiz Sains Nasional 2000 ini adalah Kementerian Sains, Teknologi dan Alam Sekitar dan Novozymes (M) Sdn Bhd. Juara kuiz telah dihantar ke Sweden dan Denmark dan telah menghadiri Upacara Penganugerahan Hadiah Nobel di Stockholm. Kuiz ini adalah merupakan satu saluran yang amat berkesan untuk memupuk kesedaran dan kecemerlangan sains dan teknologi di kalangan para pelajar, Berdasarkan kejayaan kuiz yang lalu, Akademi bercadang untuk menganjurkan kuiz ini diperingkat negeri, zon dan kebangsaan di tahun hadapan.

Akademi juga begitu aktif mempromosikan dan menonjolkan aspek-aspek sains Antartika kepada orang ramai untuk memupuk kesedaran mengenai 'White Continent' tersebut serta nilai-nilai sains yang berkaitan dengannya. Akademi telah bekerjasama dengan Kementerian Sains, Teknologi dan Alam Sekitar, Pusat Sains Negara dan beberapa organisasi antarabangsa untuk menganjurkan satu pameran mengenai "Scientific Exploration in Antarctica: Exploring the White Continent". Pameran ini juga telah menerima respons yang memberang-sangkan dari orang ramai.

Sukacita juga saya melaporkan bahawa buat pertama kali Akademi telah menganjurkan satu projek mengenai Malaysian Environmental Education for Schools' ataupun MEEPS dengan kerjasama

marked increase from the previous years. The main sponsors of the National Science Quiz 2000 were the Ministry of Science, Technology and the Environment and Novozymes (M) Sdn Bhd. The quiz champion travelled to Sweden and Denmark to attend the Nobel Prize Ceremony in Stockholm. The quiz is an excellent avenue to promote science awareness among our students. Based on the success of the previous events, the Academy plans to organize the quiz at state, regional and national levels.

The Academy has also been actively involved in promoting and highlighting the scientific aspects of Antarctica to the Malaysian public to generate greater awareness of the 'White Continent' and of Antarctic Science. The Academy worked together with the Ministry of Science, Technology and the Environment, National Science Centre and many international partners to organize an exhibition on "Scientific Exploration in Antarctica: Exploring the White Continent". The exhibition received encouraging response from the public.

I am also pleased to report that for the first time the Academy organized a Malaysian

International Plant Genetic Resources Institute (IPGRI) dengan tujuan untuk memulakan projek jangka panjang bagi mengumpul sumber-sumber dari organisasi berkaitan dan seterusnya bekerjasama dengan mereka kearah pendidikan alam sekitar yang lebih baik dan berjaya di sekolah-sekolah.

Membantu meningkatkan keupayaan teknologi industri Malaysia adalah merupakan salah satu bidang fokus Akademi dan Akademi telah berkerjasama dengan Japan Science and Technology Corporation (JST) untuk mencapai matlamat ini. Forum ASM-JST yang ketiga telah dilaksanakan tahun ini dengan menumpukan kepada "Promoting Innovation in Industry: The Critical Aspects of Research Institutions-Industry Collaboration".

Akademi kini adalah di tahun kelima penubuhannya. Ia telah mengukir tempat yang unggul di arena antarabangsa. Terdapat peningkatan yang ketara dari segi kerjasama dan rangkaian kerja yang dijalinkan dengan Akademi lain, serta organisasi sains dan teknologi serantau dan antarabangsa. Akademi juga menumpukan kepada kerjasama dengan negara-negara ASEAN, Asia, Commonwealth dan negara-negara Islam yang maju dalam bidang sains dan teknologi.

Environmental Education Project for Schools or MEEPS in collaboration with the International Plant Genetic Resources Institute (IPGRI). This was done to initiate a long term project to pool the resources of relevant organizations and work collaboratively with them towards a better and greater success in environmental education in schools.

Assisting in upgrading technological capability of Malaysian industry is one of the Academy's thrust areas and the Academy has been working closely with the Japan Science and Technology Corporation towards achieving this objective. The third ASM-JST forum was successfully conducted this year with the focus on "Promoting Innovation in Industry: The Critical Aspects of Research Institutions-Industry Collaboration".

Our Academy is now in its fifth year of establishment. It has carved a prominent place in the international scene. There has been a marked increase in the collaboration and networking with sister Academies, and with regional and international science and technology organizations. The Academy also focuses on collaboration with ASEAN, Asia, Commonwealth and Islamic countries which are advanced scientifically and technologically.

Sepanjang tahun lepas, Fellow-fellow Akademi telah begitu aktif menyertai pelbagai mesyuarat dan persidangan antarabangsa. Saya dan Naib Presiden Academician Dato' Ir Lee Yee Cheong FASc telah mewakili Akademi ke Persidangan Kelapan Asian Conference on 'Scientific Cooperation (ACSC) dan Mesyuarat Agung Penubuhan Science Council of Asia (SCA) yang diadakan di Tokyo, Jepun. Akademi juga telah menghantar delegasi seramai empat orang untuk menghadiri Mesyuarat Akademi SET ASEAN yang keempat di Jakarta, Indonesia dimana Academician Dato' Ir Lee Yee Cheong FASc dan saya telah membentangkan kertas kerja mengenai "Science and Technology in the K-economy - The Malaysian Perspectives" dan "Science, Engineering and Technology and Sustainability".

Malaysia adalah diantara negara yang menghantar delegasi paling ramai dengan enam peserta yang mana tiga daripadanya adalah Fellow Akademi ke Persidangan 'IAP 2000 Transition to Sustainability' di Tokyo. Sebagai ketua delegasi saya telah membentangkan kertas kerja mengenai "Sustainable Development: A Vision for Asia: A Prosperous and Greener Asia" di persidangan tersebut. Sebagai ahli International Council for Science (ICSU), Akademi telah menghantar wakil ke Persidangan Antarabangsa mengenai "Primary Science and Mathematics Education" yang diadakan di Beijing, China.

For the past year, Fellows have been actively involved in many international meetings and conferences. The Vice President, Academician Dato' Ir Lee Yee Cheong FASc and I represented the Academy at the Eighth Asian Conference on Scientific Cooperation (ACSC) and the Founding General Assembly of the Science Council of Asia (SCA) which were held in Tokyo, Japan. The Academy also sent a four-member delegation to the Fourth ASEAN SET Academies Meeting in Jakarta, Indonesia where Academician Dato' Ir Lee Yee Cheong FASc and I presented papers on "Science and Technology in the K-economy - The Malaysian Perspectives" and "Science, Engineering and Technology and Sustainability" respectively.

Malaysia had one of the biggest delegations with six participants, three of whom are Fellows of the Academy, at the IAP 2000 Transition to Sustainability Conference in Tokyo. As the head of delegation, I presented a paper on "Sustainable Development: A Vision for Asia: A Prosperous and Greener Asia" at the Conference. As a member of the International Council for Science (ICSU) the Academy was represented at the International Conference on Primary Science and Mathematics Education which was held in Beijing, China.

Akademi telah menghantar delegasi seramai tiga orang yang diketuai oleh Prof Tan Sri Dato' Syed Jalaluddin Syed Salim FASc untuk lawatan sambil belajar ke Jepun sebagai memenuhi undangan dari Japan Science and Technology Corporation (JST). Akademi juga telah berpeluang untuk menjadi hos kepada ramai pelawat ternama sepanjang tahun lepas. Di antaranya adalah delegasi dari Chinese Academy of Social Sciences (CASS).

Terdapat banyak lagi aktiviti yang telah dilaksanakan oleh Akademi sepanjang tahun yang akan dibentangkan didalam laporan tahunan ini.

Bagi tahun yang dilapor, Akademi telah menerima sebanyak 170 penerbitan dari pelbagai organisasi tempatan dan antarabangsa. Akademi juga telah mengedarkan sebanyak 1344 naskah 'newsletter' dan 753 naskah Laporan Tahunan 1999.

Sebagai penutup, saya ingin mengalu-alukan pengganti saya kerana saya tidak lagi memegang jawatan sebagai Presiden pada tahun depan. Saya pasti pengganti saya akan membawa bersamanya pengalaman, pengetahuan dan komitmen yang tinggi. Adalah menjadi kebanggaan saya untuk memikul tanggungjawab sebagai Presiden pertama Akademi Sains Malaysia.

At the invitation of Japan Science and Technology Corporation (JST), the Academy sent a three-member delegation led by Prof Tan Sri Dato' Syed Jalaluddin Syed Salim FASc for a study visit to Japan. The Academy also had the opportunity to host many distinguished visitors during the year. Among them was the delegation from the Chinese Academy of Social Sciences (CASS).

There are many other activities the Academy participated in which will be outlined in the accompanying report.

For the year under review the Academy received 170 publications from various organizations locally and abroad. The Academy circulated about 1344 copies of the newsletters and 753 of the 1999 Annual Reports.

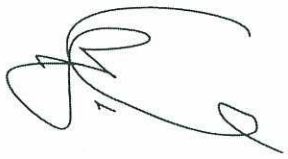
In closing, I am indeed pleased to welcome my successor as I myself will be stepping down from the Presidential Chair in the coming year. I am sure that my successor will bring to the position valuable experience and expertise and a strong commitment. It has been my pleasure to serve as the Founding President of the Academy of Sciences Malaysia.

Saya juga ingin menyatakan bahawa Akademi amat beruntung kerana adanya pengurusan yang mantap. Akademi juga mempunyai staf yang berdedikasi, dan mereka mendapat penghormatan saya diatas penumpuan usaha mereka untuk Akademi. Saya juga ingin merakamkan ucapan terima kasih di atas sokongan mereka selama saya menjadi Presiden Akademi.

Akhirkata, saya ingin mengucapkan tahniah kepada semua kerana telah menjadikan tahun yang lalu sebagai tahun yang sungguh berjaya bagi Akademi. Kami mempunyai beberapa sebab untuk melihat 2001 sebagai satu tahun kejayaan dan kemakmuran bagi Akademi.

I can also confidently say that the Academy is blessed with exceptionally fine management. We have exceedingly dedicated staff, and I respect and admire them for their devotion to the Academy. On a more personal note, I wish to thank them for their support during my term as President.

Finally, congratulations to all of you, for making last year such a great one for the Academy. We have every reason to look forward to a successful and prosperous 2001.



Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc
Presiden, Akademi Sains Malaysia
President, Academy of Sciences Malaysia

Fungsi

- Untuk menggalakkan dan merangsang pembangunan sains, kejuruteraan dan teknologi
- untuk mengadakan forum pertukaran pendapat di kalangan ahli sains, jurutera dan ahli teknologi
- untuk menggalakkan kesedaran negara, pemahaman dan penghargaan akan peranan sains, kejuruteraan dan teknologi dalam kemajuan manusia
- untuk menggalakkan daya rekaciptaan di kalangan ahli sains, jurutera dan ahli teknologi
- untuk menggalakkan sifat berdikari negara dalam bidang sains, kejuruteraan dan teknologi
- untuk bertindak sebagai forum untuk mengekalkan di pihak Kerajaan akan pentingnya peranan sains, kejuruteraan dan teknologi dalam proses pembangunan negara dan membawa kepada perhatian ahli sains, jurutera dan ahli teknologi akan keperluan-keperluan pembangunan negara

Functions

- to promote and foster the development of science, engineering and technology
- to provide a forum for the interchange of ideas among scientists, engineers and technologies
- to promote national awareness, understanding and appreciation of the role of science, engineering and technology in human progress
- to promote creativity among scientists, engineers and technologists
- to promote national self-reliance in the field of science, engineering and technology
- to act as a forum for maintaining awareness on the part of the Government of the significance of the role of science, engineering and technology in the development process of the nation and for bringing national development needs to the attention of scientists, engineers and technologists

- untuk menganalisa masalah-masalah tertentu negara dan mengenalpasti di mana sains, kejuruteraan dan teknologi dapat memberi sumbangan kepada penyelesaian masalah dengan membuat syor-syor kepada Kerajaan
- untuk sentiasa mengambil perhatian tentang perkembangan sains, kejuruteraan dan teknologi serta mengenalpasti perkembangan-perkembangan yang relevan dengan keperluan negara dan membawa kepada perhatian Kerajaan akan perkembangannya
- untuk menyediakan laporan-laporan, kertas-kertas atau dokumen-dokumen lain berhubungan dengan dasar sains, kejuruteraan dan teknologi negara dan membuat syor-syor yang perlu kepada Kerajaan
- untuk mendayausahakan dan membiayai kajian pelbagai disiplin yang berkaitan serta keperluan pemahaman yang lebih baik tentang implikasi-implikasi social dan ekonomi tentang sains, kejuru kejuruteraan dan teknologi
- untuk menggalakkan penyelidikan dan pembangunan pendidikan serta latihan tenaga manusia yang sesuai dalam bidang saintifik, kejuruteraan dan teknologi
- untuk mengadakan dan mengekalkan hubungan antara Akademi dan badan-badan luar negeri yang mempunyai objektif yang hampir serupa dengan objektif Akademi

- to analyze particular national problems and identify where science, engineering and technology can contribute to their solution and accordingly to make recommendations to the Government
- to keep in touch with developments in science, engineering and technology and identify those developments which are relevant to national needs and to bring such developments to the attention of the Government
- to prepare reports, papers or other documents relating to the national science, engineering and technology policy and make the necessary recommendations to the Government
- to initiate and sponsor multi-disciplinary studies related to and necessary for the better understanding of the social and economic implications of science, engineering and technology
- to encourage research and development and education and training of the appropriate scientific, engineering and technical manpower
- to establish and maintain relations between the Academy and overseas bodies having the objectives in science, engineering and technology as the Academy

- untuk melakukan apa-apa perkara lain dalam bidang sains, kejuruteraan dan teknologi sebagaimana yang diminta oleh Kerajaan dari semasa ke semasa
- Untuk melakukan apa-apa tindakan lain yang konsisten dengan Akta Akademi Sains 1994 sebagaimana yang dikehendaki untuk meningkatkan kemajuan sains, kejuruteraan dan teknologi di Malaysia dan kebajikan serta taraf Akademi

- to advise on matters related to science, engineering and technology as may be requested by the Government from time to time
- to do such other acts which are consistent with this Act as may be required in order to further the advancement of science, engineering and technology in Malaysia and the welfare and status of the Academy

Fellow Kehormat
Honorary Fellow



YAB Dato' Seri Dr Mahathir Mohamad
Perdana Menteri Malaysia/
Prime Minister of Malaysia

Fellow Kanan
Senior Fellows



Academician Tan Sri Datuk
Dr Omar Abdul Rahman FASc



Academician Dato'
Ir Lee Yee Cheong FASc



Academician Dr M.K. Rajakumar FASc

AKADEMI SAINS MALAYSIA



Academician Tan Sri Datuk
Dr Augustine S.H. Ong FASc



Academician Tan Sri Dr B.C. Sekhar FASc

Fellow Baru
New Fellows



Prof Dato' Dr Hashim Yaacob FASc
(Medical Sciences)



Dr Ting Wen Hui FASc
(Engineering Sciences)



Dr Fon Wai Chu FASc
(Mathematical and Physical Sciences)



Prof Ir Dr Zainul Abidin Md Shariff FASc
(Information Technology)



Tuan Hj Ir Mohamed Zohari
Mohamed Shaharum FASc
(Science and Technology Development and Industry)



Prof Dr Yap Han Heng FASc
(Biological Sciences)

Senarai Fellow
List of Fellows

Sains Perubatan/*Medical Sciences*

1) Academician Dr M.K. Rajakumar FASc
2) Professor Dr Looi Lai Meng FASc
3) Dato' Dr M. Jegathesan FASc
4) Prof Dato' Dr Khalid Abdul Kadir FASc
5) Tan Sri Dato' Dr Haji Abdul Majid Ismail FASc
6) Dato' Dr Lim Kee Jin FASc
7) Datuk Dr Hussein Awang FASc
8) Datuk Dr G. Sreenevasan FASc
9) Prof Dr Mak Joon Wah FASc
10) Dato' Dr Yahya Awang FASc
11) Datuk Dr Keshmahinder Singh FASc
12) Dato' Dr N. Arumugasamy FASc
13) Prof Dr Lam Sai Kit FASc
14) Tan Sri Dato' Dr Abu Bakar Sulaiman FASc
15) Tan Sri Dato' Haji Musa Mohamad FASc
16) Prof Dato' Paduka Dr Mustaffa Embong FASc
17) Prof Puan Sri Datin Dr Nafisah bt Hj Nik Mohd Adeeb FASc
18) Prof Dato' Dr Hashim Yaacob FASc

Sains Biologi/*Biological Sciences*

1) Prof Emeritus Chin Hoong Fong FASc
2) Tan Sri Datuk Dr Ahmad Zaharudin Idrus FASc
3) Prof Tan Sri Dato' Dr Syed Jalaludin Syed Salim FASc
4) Prof Dato' Dr Zakri Abdul Hamid FASc
5) Dr Yong Hoi Sen FASc
6) Dato' Dr Salleh Mohd.Nor FASc
7) Prof Dr Abdul Latif Ibrahim FASc
8) Prof Emeritus Dato' Dr Ahmad Nawawi Hj Ayob FASc
9) Tan Sri Dato' Dr Ahmad Mustaffa Babjee FASc
10) Dr Francis S.P. Ng FASc
11) Prof Dr Ho Yin Wan FASc

12) Prof Dr Koh Chong Lek FASc
13) Prof Dr Mak Chai @ Mak Lian Fong FASc
14) Prof Dr Yap Han Heng FASc

Sains Kejuruteraan/*Engineering Sciences*

1) Academician Dato' Ir Lee Yee Cheong FASc
2) Tan Sri Ir J.G. Daniel FASc
3) Dato' Ikmal Hisham Albakri FASc
4) Tan Sri Dato' Ir Abu Zarim Haji Omar FASc
5) Tan Sri Dato' Ir Haji Shahrizaila Abdullah FASc
6) Dato' Dr Muhammad Ridzuan Haji Salleh FASc
7) Tan Sri Dato' Ir Muhammad Yusuff Muhammad Yunus FASc
8) Ir Hong Lee Pee FASc
9) Mr Hijjas Kasturi FASc
10) Ir K. Kumarasivam FASc
11) Dato' Ir Hj Ahmad Zaidee Hj Laidin FASc
12) Dato' Dr Mohd Ariffin Hj. Aton FASc
13) Dr Ting Wen Hui FASc

Sains Matematik dan Fizikal/ *Mathematical and Physical Sciences*

1) Dato' Dr Chatar Singh FASc
2) Tan Sri Dato' Dr Ahmad Tajuddin Ali FASc
3) Prof Dato' Dr Mohd Sham Mohd Sani FASc
4) Datuk Dr R. Ratnalingam FASc
5) Mr Fateh Chand FASc
6) Prof Dr Shaharir Mohd Zain FASc
7) Dr Chia Swee Ping FASc
8) Dr Fon Wai Chu FASc

Sains Kimia/*Chemical Sciences*

1) Academician Tan Sri Datuk Dr Augustine S.H. Ong FASc
2) Academician Tan Sri B.C. Sekhar FASc
3) Dr Haji Badri Muhammad FASc
4) Dr V.G. Kumar Das FASc
5) Dr Ng Soon FASc
6) Dr Ho Chee Cheong FASc

Teknologi Maklumat/*Information Technology*

1) YM Tg Datuk Dr Mohd Azzman Shariffadeen Tg Ibrahim FASc
2) Prof Dato' Ir Dr Mohamad Zawawi Ismail FASc
3) Tan Sri Dato' Ir Shamsuddin Abdul Kadir FASc
4) Tuan Haji Ismail Sulaiman FASc
5) Prof Emeritus Dato' Dr Tan Wang Seng FASc
6) Dr Mohamed Ariff Nun FASc
7) Dr Mohamad Awang Lah FASc
8) Dr Mohamad Zahran Dato' Sheikh Abdul Halim FASc
9) Prof Dr Zaharin Yusoff FASc
10) Prof Ir Dr Zainul Abidin Md Shariff FASc

Pembangunan Sains & Teknologi dan Industri/ *Science & Technology Development and Industry*

1) Academician Tan Sri Datuk Dr Haji Omar Abdul Rahman FASc
2) Tan Sri Dato' Dr Mohd Rashdan Haji Baba FASc
3) Tan Sri Dato' (Dr) Haji Ani Arope FASc
4) Tan Sri Dato' Dr Mohamed Yusof Hashim FASc
5) Tan Sri Dato' Ir Wan A. Rahman Hj Wan Yaacob FASc
6) Datuk Dr S.M. Alhady FASc
7) Datuk Dr Abdul Aziz S.A. Kadir FASc
8) Datuk Yong Poh Kon FASc
9) Mr T. Ananda Krishnan FASc
10) Datuk Dr Yusuf Basiron FASc
11) Datuk Alladin Hashim FASc
12) Dato' Dr Mazlan Othman FASc
13) Tuan Hj Ir Mohamed Zohari Mohamed Shaharum FASc

Ahli Majlis *Council Members*

Presiden/*President*	Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc
Naib Presiden/ *Vice President*	Academician Dato' Ir Lee Yee Cheong FASc
Setiausaha Agung/ *Secretary General*	Dato' Dr Salleh Mohd Nor FASc
Bendahari Kehormat/ *Honorary Treasurer*	Academician Tan Sri Datuk Dr Augustine S.H. Ong FASc
Ahli Majlis/ *Members of Council*	Prof Dato' Dr Zakri Abdul Hamid FASc Datuk Dr Abdul Aziz S.A. Kadir FASc Encik Fateh Chand FASc Prof Dr Looi Lai Meng FASc Dato' Dr Ikmal Hisham Albakri FASc Dr Ho Chee Cheong FASc Prof Datuk Paduka Dr Mustaffa Embong FASc Ir K. Kumarasivam FASc Dr Chia Swee Ping FASc Prof Dr Abdul Latiff Ibrahim FASc Dr Mohamed Ariff Nun FASc Dato' Dr Mohd Ariffin Hj. Aton FASc

Mesyuarat Majlis

Bagi tahun berakhir pada 31 Disember 2000, Majlis telah bermesyuarat tujuh (7) kali seperti berikut:

- 29 Januari 2000
- 25 Mac 2000
- 27 Mei 2000
- 22 Julai 2000
- 16 September 2000
- 2 November 2000
- 14 Disember 2000

Pada mesyuarat ini, Majlis telah membincangkan isu-isu berikut:

- Kajian Semula Belanjawan 1999, Belanjawan 2000 dan aktiviti
- Kajian Semula Polisi Sains dan Teknologi Kebangsaan
- Kuiz Sains Nasional 2000
- Geran Perubatan Dr Ranjeet Bhagwan Singh dan Syarahan Memorial
- Penubuhan Tabung ASM
- Activiti dan Rangkaian Kerja Antarabangsa
- Projek Antartika

Council Meetings

For the year ending 31st December 2000, the Council met seven (7) times as follows:

- 29th January 2000
- 25th March 2000
- 27th May 2000
- 22nd July 2000
- 16th September 2000
- 2nd November 2000
- 14th December 2000

At these meetings, the Council deliberated on the following issues:

- 1999 Budget Review and 2000 Budget and Programme of Activities
- National Science and Technology Policy Review
- National Science Kuiz 2000
- Dr Ranjeet Bhagwan Singh Research Grant and Memorial Lecture
- Establishment of ASM Fund
- International Activities and networking
- Project on Antarctica

Jawatankuasa Kerja dan Program

Working and Programme Committee

Untuk membantu dalam pentadbiran dan operasi Akademi, Majlis telah menubuhkan beberapa Jawatankuasa yang bertanggungjawab untuk menjalankan beberapa fungsi dan tanggungjawab. Dalam tahun 2000 Jawatankuasa-jawatankuasa adalah seperti berikut:

To assist its management and operation of the Academy, the Council has set up various committees which are responsible for carrying out specific functions and responsibilities. In 2000, the following committees were operational:

JAWATANKUASA EKSEKUTIF/*EXECUTIVE COMMITTEE*

Presiden/*President*	Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc
Naib Presiden/ *Vice President*	Academician Dato' Ir Lee Yee Cheong FASc
Setiausaha Agung/ *Secretary General*	Dato' Dr Salleh Mohd Nor FASc
Bendahari Kehormat/ *Honorary Treasurer*	Academician Tan Sri Datuk Dr Augustine S.H. Ong FASc

JAWATANKUASA KEWANGAN/*FINANCE COMMITTEE*

Pengerusi/*Chairman*	Academician Tan Sri Datuk Dr Augustine S.H. Ong FASc

JAWATANKUASA ANUGERAH/*AWARDS COMMITTEE*

Pengerusi/*Chairman*	Academician Dr M.K. Rajakumar FASc

JAWATANKUASA HAL EHWAL ANTARABANGSA/ *INTERNATIONAL AFFAIRS COMMITTEE*

Pengerusi/*Chairman*	Academician Dato' Ir Lee Yee Cheong FASc

KUMPULAN ANTARABANGSA DAN ISU STRATEGIK/ *INTERNATIONAL AND STRATEGIC ISSUES (ISI) GROUP*

Pengerusi/*Chairman*	Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc
Setiausaha/*Secretary*	Dato' Dr Salleh Mohd Nor FASc
Ahli/*Members*	Academician Dato' Ir Lee Yee Cheong FASc Tan Sri Dato' Ir Shahrizaila Abdullah FASc Prof Dato' Dr Mohd Zawawi Ismail FASc YM Tg Datuk Dr Azzman Shariffadeen Tg Ibrahim FASc Prof Dato' Dr Sham Sani FASc Encik Fateh Chand FASc Dr Yong Hoi Sen FASc

JAWATANKUASA KEAHLIAN/ *MEMBERSHIP COMMITTEE*

Pengerusi/*Chairman*	Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc
Setiausaha/*Secretary*	Dato' Dr Salleh Mohd Nor FASc
Sains Perubatan/*Medical Sciences* **Pengerusi/*Chairman***	Prof Dr Looi Lai Meng FASc
Sains Kejuruteraan/ *Engineering Sciences* **Pengerusi/*Chairman***	Dato' Dr Ikmal Hisham Albakri FASc
Sains Biologi/*Biological Sciences* **Pengerusi/*Chairman***	Dato' Dr Salleh Mohd Nor FASc
Sains Matematik & Fizikal/ *Mathematical & Physical Sciences* **Pengerusi/*Chairman***	Dr Chia Swee Ping FASc
Sains Kimia/*Chemical Sciences* **Pengerusi/*Chairman***	Tan Sri Dato' Dr Augustine S.H. Ong FASc
Teknologi Maklumat/ *Information Technology* **Pengerusi/*Chairman***	Dr Mohd Arif Nun FASc
Pembangunan S&T dan Industri/*S&T Development and Industry* **Pengerusi/*Chairman***	Datuk Dr Abdul Aziz S.A. Kadir FASc

JAWATANKUASA PROGRAM/ *IPROGRAMME COMMITTEE*

Pengerusi Koordinator/ *Coordinating Chairman*	Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc

JAWATANKUASA KERJA/ *WORKING COMMITTEE*

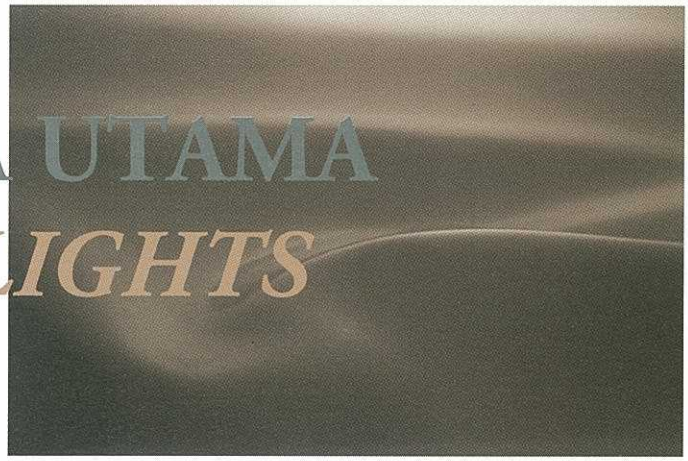
NASIHAT KEPADA KERAJAAN/*ADVICE TO GOVERNMENT*	
Pengerusi Koordinator/ *Coordinating Chairman*	Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc
PENDIDIKAN SAINS/ *SCIENCES EDUCATION* **Pengerusi/** *Chairman*	Tan Sri Datuk Dr Ahmad Zaharudin Idrus FASc
PERTANIAN DAN SEKTOR BERASASKAN SUMBER/ *AGRICULTURE AND RESOURCE BASED SECTORS* **Pengerusi/** *Chairman*	Datuk Dr Abdul Aziz S.A Kadir FASc
BIODIVERSITI/ *BIODIVERSITY* **Pengerusi/** *Chairman*	Prof Dato' Dr Zakri Abdul Hamid FASc
PENGURUSAN SUMBER ASLI/ *NATURAL RESOURCES MANAGEMENT* **Pengerusi/** *Chairman*	Encik Fateh Chand FASc
KESEDARAN DAN KEFAHAMAN AWAM MENGENAI S&T/*PUBLIC S&T AWARENESS, UNDERSTANDING AND LEADERSHIP*	
Pengerusi/ *Chairman*	Dr Chia Swee Ping FASc
BUDAYA KECEMERLANGAN/*CULTURE OF EXCELLENCE*	
Pengerusi/ *Chairman*	Prof Dr Abdul Latiff Ibrahim FASc
SUMBANGAN KEPADA PEMBANGUNAN INDUSTRI –MENINGKATKAN KEUPAYAAN TEKNOLOGI/ *CONTRIBUTION TO INDUSTRIAL DEVELOPMENT – ENHANCING TECHNOLOGICAL CAPABILITY* **Pengerusi/** *Chairman*	Dato' Dr Ariffin Aton FASc

Teknologi Maklumat/ ***Information Technology*** **Pengerusi/*Chairman***	Dr Mohamed Arif Nun FASc
Penerbitan/*Publication* **Pengerusi/*Chairman***	Academician Dato' Ir Lee Yee Cheong FASc
Alam Sekitar/*Environment* **Pengerusi/*Chairman***	Encik Fateh Chand FASc
Dr Ranjeet Bhagwan Singh Medical Research Fund **Pengerusi/*Chairman***	Prof Dr Looi Lai Meng FASc
Program P&P Malaysia di Antartika/*Malaysian R&D Programme in Antarctica* **Pengerusi/*Chairman***	Dato' Dr Salleh Mohd Nor FASc
Search Committee **Pengerusi/*Chairman***	Dato' Dr Salleh Mohd Nor FASc
Projek Taman Botani Kebangsaan/*National Botanic Garden Project* **Pengerusi/*Chairman***	Dato' Dr Salleh Mohd Nor FASc

Carta Organisasi
Organization Chart



ACARA UTAMA
HIGHLIGHTS



Mesyuarat Agung Tahunan Kelima Akademi Sains Malaysia

Academy of Sciences Malaysia Fifth Annual General Meeting

Akademi Sains Malaysia mengadakan Mesyuarat Agung Tahunan yang Kelima pada 22 April 2000 dengan dipengerusikan oleh Presiden Akademi. Seramai tiga puluh enam orang Fellow menghadiri mesyuarat tersebut.

Presiden Akademi, Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc menyampaikan ucapan alu-aluan dan Ucapan Presiden.

The Academy of Sciences Malaysia held its 5th Annual General Meeting (AGM) on 22nd April 2000 with the President in the Chair. Thirty-six Fellows attended the AGM.

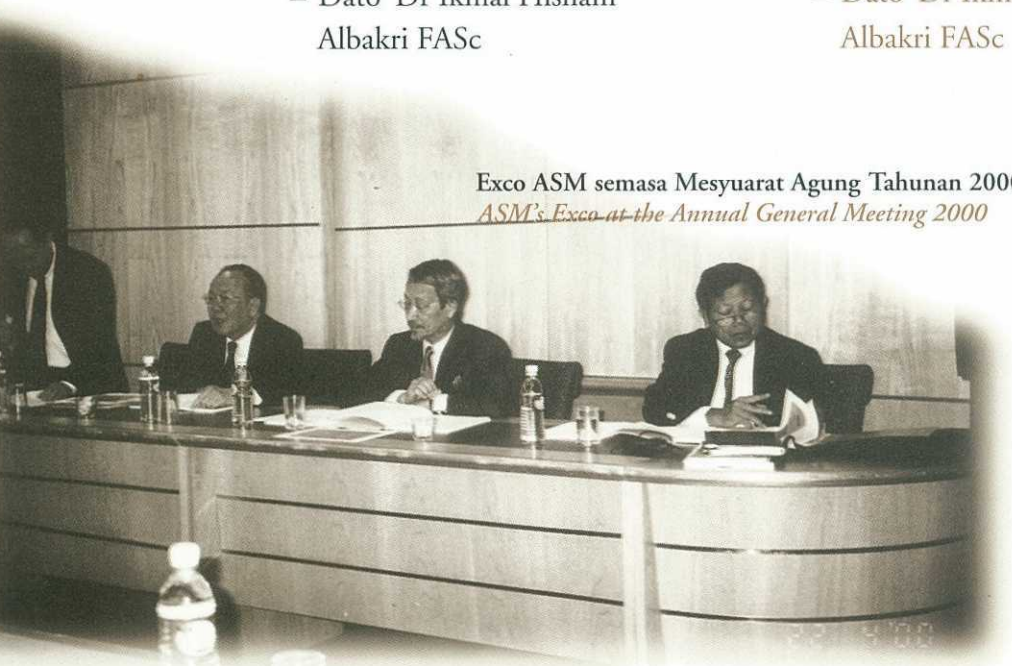
The President of the Academy, Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc presented his welcoming speech and the Presidential Address.

Mesyuarat tersebut membincangkan dan meluluskan perkara-perkara berikut:

- Laporan Tahunan 1999 dan Penyata Akaun berakhir 31 Disember 1999.
- Pemilihan enam Fellow baru
  - Prof Dato' Dr Hashim Yaacob (Medical Sciences)
  - Dr Ting Wen Hui (Engineering Sciences)
  - Prof Dr Yap Han Heng (Biological Sciences)
  - Dr Fon Wai Chu (Mathematical and Physical Sciences)
  - Prof Dr Ir Zainul Abidin Md Shariff (Information Technology)
  - Tuan Hj Ir Mohamed Zohari Mohamed Shaharun (S&T Development & Industry)
- Perlantikan semula lima Ahli Majlis
  - Prof Dato' Dr Zakri A. Hamid FASc
  - Prof Dr Looi Lai Meng FASc
  - Dato' Dr Ikmal Hisham Albakri FASc

The meeting discussed and approved the following:

- 1999 Annual Report and Statement of Accounts ending 31st December 1999.
- Election of six new Fellows of the Academy
  - Prof Dato' Dr Hashim Yaacob (Medical Sciences)
  - Dr Ting Wen Hui (Engineering Sciences)
  - Prof Dr Yap Han Heng (Biological Sciences)
  - Dr Fon Wai Chu (Mathematical and Physical Sciences)
  - Prof Dr Ir Zainul Abidin Md Shariff (Information Technology)
  - Tuan Hj Ir Mohamed Zohari Mohamed Shaharun (S&T Development & Industry)
- Re-election of five Members of the Council
  - Prof Dato' Dr Zakri A. Hamid FASc
  - Prof Dr Looi Lai Meng FASc
  - Dato' Dr Ikmal Hisham Albakri FASc



Exco ASM semasa Mesyuarat Agung Tahunan 2000
ASM's Exco at the Annual General Meeting 2000

- Encik Fateh Chand FASc
- Datuk Dr Abdul Aziz S.A Kadir FASc

♦ Perlantikan Ahli Majlis baru
- Dato' Dr Ariffin Hj Aton FASc

Semasa Mesyuarat Agung tersebut Presiden mengumumkan perlantikan Tan Sri B.C. Sekhar FASc sebagai Fellow Kanan ASM tahun 2000. Perlantikan itu adalah berdasarkan kepada cadangan oleh satu Jawatankuasa Khas yang dipengerusikan oleh Ketua Setiausaha Negara, YBhg Tan Sri Abdul Halim Ali.

Mesyuarat Agung Tahunan Kelima ini diikuti oleh pembentangan khas oleh Fellow Akademi:

1. National Science and Technology Policy II: Building Competitiveness in a Knowledge Driven Economy oleh Datuk Dr Yusuf Basiron FASc

2. National Science and Technology Resource Centre oleh Academician Dato' Ir Lee Yee Cheong FASc

3. Emerging Issues on Sustainable Development oleh Encik Fateh Chand FASc

- Encik Fateh Chand FASc
- Datuk Dr Abdul Aziz S.A Kadir FASc

♦ Election of a new Member of the Council
- Dato' Dr Ariffin Hj Aton FASc

During the AGM the President announced the election of Tan Sri B.C. Sekhar FASc as the ASM Senior Fellow 2000. The election was based on the recommendations of a Special Committee chaired by the Chief Secretary to the Government, YBhg Tan Sri Abdul Halim Ali.

The Fifth AGM was followed by three special presentations by Academy Fellows.

1. National Science and Technology Policy II: Building Competitiveness in a Knowledge Driven Economy by Datuk Dr Yusuf Basiron FASc

2. National Science and Technology Resource Centre by Academician Dato' Ir Lee Yee Cheong FASc

3. Emerging Issues on Sustainable Development by Encik Fateh Chand FASc

Majlis Makan Malam Tahunan Akademi Sains Malaysia 2000

Academy of Sciences Malaysia Annual Dinner 2000

Tetamu Kehormat di Majlis Makan Malam ASM
Guests of Honour at the ASM Annual Dinner



Akademi Sains Malaysia menganjurkan Majlis Makan Malam Tahunannya yang Keenam pada 14 Ogos 2000 di Hotel Mandarin Oriental, Kuala Lumpur. Tetamu kehormat di majlis tersebut adalah YAB Timbalan Perdana Menteri Malaysia, Dato' Seri Abdullah Ahmad Badawi. Majlis tersebut juga dihadiri oleh YB Menteri Sains, Teknologi dan Alam Sekitar, Datuk Law Hieng Ding, YB

The Academy of Sciences Malaysia held its sixth Annual Dinner on 14 August 2000 at the Mandarin Oriental Hotel, Kuala Lumpur. The dinner was graced by the Rt Hon Deputy Prime Minister of Malaysia, Dato' Seri Abdullah Ahmad Badawi. The dinner was also honoured by the presence of the Minister of Science, Technology and the Environment, the Hon Datuk Law Hieng Ding, Minister of

Menteri Pertanian, Datuk Mohamad Effendi Norwawi, Ketua Setiausaha Negara, YABhg Tan Sri Abdul Halim Ali dan Bekas Ketua Setiausaha Negara, YBhg Tan Sri Dato' Seri Ahmad Sarji Abdul Hamid.

Seramai lebih kurang 570 tetamu yang terdiri dari Fellow Akademi, Ketua dan Pegawai Agensi Kerajaan, Kapten Industri dan Ketua Komuniti Saintifik menghadiri Jamuan Makan Malam tersebut.

Agriculture, the Hon Datuk Mohamad Effendi Norwawi, the Chief Secretary to the Government, YABhg Tan Sri Abdul Halim Ali, and Former Chief Secretary to the Government, YBhg Tan Sri Dato' Seri Ahmad Sarji Abdul Hamid. About 570 guests comprising Fellows of the Academy, Heads and Officials of Government Agencies and Ministries, Captains of Industry and Scientific Community Leaders attended the dinner.



Fellow Kanan ASM dan Fellow baru di Majlis Makan Malam 2000
ASM Senior Fellow and New Fellows at the Annual Dinner 2000

Acara kemuncak pada malam itu adalah Ucapan Tahunan oleh Timbalan Perdana Menteri, Ucapan Presiden dan penganugerahan Sijil Fellowship kepada Fellow Kanan dan enam Fellow baru Akademi.

Ucapan Tahunan yang disampaikan oleh Timbalan Perdana Menteri antara lain mengutarakan perkara berikut:

(i) Sektor swasta perlu menerajui pembangunan sains dan teknologi;

The highlights of the evening were the Deputy Prime Minister's Annual Address to the Academy, the President's Address, and conferment of Fellowship Certificates to ASM Senior Fellow and six new Fellows.

The Deputy Prime Minister in his address highlighted the following:

(i) Private sector to take the lead in the development of science and technology;

(ii) Keperluan untuk mengembangkan 'human capital' dalam bidang sains dan teknologi; dan

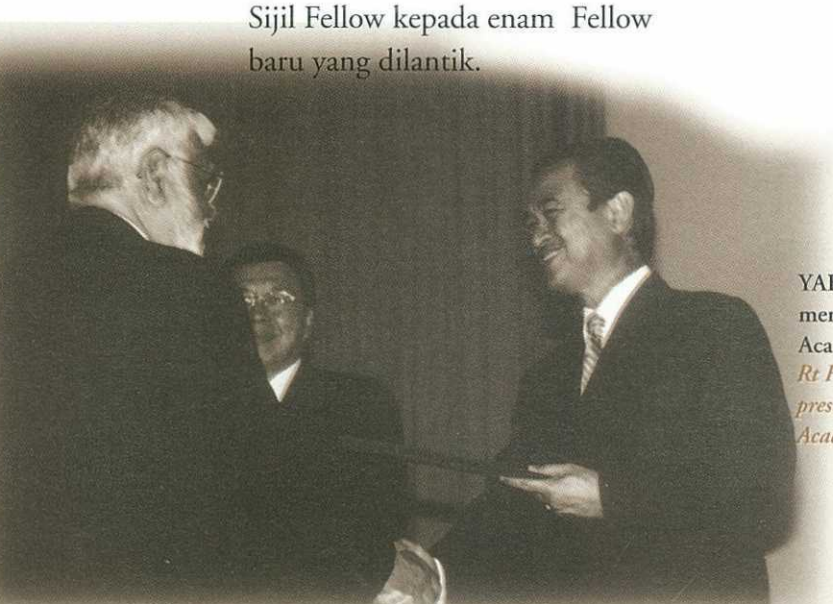
(iii) Menyokong penubuhan 'ASM Endowment Fund' serta menggalakkan individu dan golongan korporat untuk menubuhkan dana bagi menyokong program yang menyumbang kepada pembangunan negara.

Tahun ini Akademi melantik seorang Fellow Kanan yang layak untuk mendapat gelaran 'Academician'. Perlantikan ini adalah berdasarkan sumbangan mereka yang cemerlang di dalam bidang sains, kejuruteraan dan teknologi untuk kebaikan negara dan manusia sejagat. Pemilihan Fellow Kanan dilaksanakan oleh Panel Khas yang dipengerusikan oleh YABhg Tan Sri Abdul Halim Ali, Ketua Setiausaha Negara. Pada tahun ini YAB Datuk Abdullah Ahmad Badawi menyampaikan Sijil Fellow Kanan kepada saintis terkemuka Tan Sri B.C. Sekhar FASc.YAB Dato' Seri Abdullah Ahmad Badawi juga menyampaikan Sijil Fellow kepada enam Fellow baru yang dilantik.

(ii) Need for expansion of the human capital in S&T, and

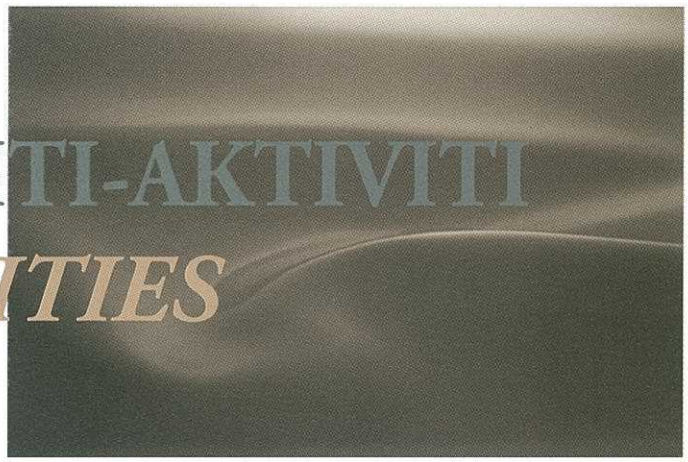
(iii) Endorsed the setting up of the ASM Endowment Fund whilst encouraging individuals and corporations to set up endowment funds to support programmes that contribute to nation-building.

This year the Academy elected a Senior Fellow who is entitled to be called 'Academcian'. The selection was based on outstanding contributions and achievements in the areas of SET for the benefit of the nation and mankind. The election was made by a Special Panel chaired by YABhg Tan Sri Abdul Halim Ali, Chief Secretary to the Government. During the dinner the Rt Hon Dato' Seri Abdullah Ahmad Badawi presented the Senior Fellow Certificate to the renowned scientist YBhg Tan Sri B.C. Sekhar FASc. He also presented Fellowship Certificates to the six newly elected Fellows of the Academy.



YAB Datuk Abdullah Ahmad Badawi menyampaikan Sijil Fellow Kanan kepada AcademicianTan Sri B.C. Sekhar FASc
Rt Hon Dato' Seri Abdullah Ahmad Badawi presenting the Senior Fellow Certificate to Academician Tan Sri B.C. Sekhar FASc

AKTIVITI-AKTIVITI
ACTIVITIES



Aktiviti-aktiviti *Activities*

Akademi Sains Malaysia, yang ditubuhkan lima tahun lalu, telah diamanahkan dengan misi "untuk mencapai, menggalak, serta meningkatkan kecemerlangan dalam bidang sains, kejuruteraan dan teknologi khusus untuk kemajuan dan pembangunan negara dan juga untuk kebaikan manusia sejagat".

The Academy of Sciences Malaysia, which was established five years ago, has set the mission "to pursue, encourage and enhance excellence in the fields of science, engineering and technology for the development of the nation and the benefit of mankind".

Akademi menjalankan aktivitinya berdasarkan kerangka misinya :

1. Untuk memberi nasihat kepada Kerajaan mengenai perkara-perkara yang berkepentingan nasional
2. Untuk merangsang budaya kecemerlangan dalam bidang sains, kejuruteraan dan teknologi di Malaysia
3. Untuk membantu meningkatkan keupayaan industri di Malaysia dalam bidang teknologi
4. Untuk menggalakkan kesedaran umum tentang kepentingan sains, kejuruteraan dan teknologi dalam kehidupan seharian
5. Untuk menggalakkan dan mengkordinasikan Kerjasama dan Usahasama Antarabangsa dalam bidang penyelidikan.

Within the framework of the Academy's given mission, it organized its activities based on the following thrust areas :

1. To provide advice to Government on matters related to science, engineering and technology which are of national importance
2. To foster a Culture of Excellence in the SET community in Malaysia
3. To assist in upgrading the technological capability and competency of Malaysian industries
4. To promote public awareness on the importance of SET in everyday life
5. To facilitate and coordinate International Collaboration and Cooperation in research.

Nasihat kepada Kerajaan

Advice to the Government

Salah satu daripada peranan penting Akademi adalah memberi nasihat kepada Kerajaan mengenai perkara yang berkaitan dengan bidang sains, kejuruteraan dan teknologi. Pada tahun 2000, Akademi telah menjalankan aktiviti berikut:

One of the main roles of the Academy is to advise the Government on matters related to science, engineering and technology which are of national importance from time to time. In 2000, the Academy has carried out the following tasks :

Kajian Semula Polisi Sains dan Teknologi Kebangsaan

Kajian Semula Polisi Sains dan Teknologi Kebangsaan telah pun disempurnakan. Konsultan yang dilantik untuk melaksanakan sembilan komponen kajian telah pun memajukan laporan mereka kepada Akademi pada awal bulan Februari 2000. Akademi menganjurkan Mesyuart selama tiga hari di Awana Genting Resort pada 25-27 Februari 2000 dengan tujuan untuk melaraskan input kedalam laporan. Mesyuarat tersebut dipengerusikan oleh Dato' Dr Yusof Basiron FASc dengan sokongan para konsultan, pegawai-pegawai dari MOSTE dan Fellow Akademi.

Laporan tersebut telah dibentangkan di Seminar Kebangsaan pada 9 Mac 2000 di Park Plaza Hotel Kuala Lumpur. Seramai lebihkurang 70 peserta yang mewakili pelbagai institusi dan organisasi menghadiri seminar tersebut untuk memberi maklum balas dan pandangan mengenai laporan. Satu lagi seminar dianjurkan di Akademi Sains Malaysia pada 11-12 April 2000 dengan tujuan untuk menyelaraskan laporan tersebut kepada perspektif antarabangsa masakini. Dato' Dr Micheala Smith dan Prof Noel dari CPTM (Commenwealth Partnership for Technology Management) serta Duta Malawi ke Taiwan hadir disesi perbincangan. Perbincangan diketuai oleh Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc, Presiden Akademi Sains Malaysia.

Review of the National Science and Technology Policy

The review of the National Science and Technology Policy has been completed. The Consultants appointed to undertake the nine individual component studies submitted their reports to the Academy in early February 2000. In an effort to integrate their inputs into the report, the Academy organized a 3-day retreat from 25th-27th February 2000 at Awana Genting Resorts. The meetings were led by Dato' Dr Yusof Basiron FASc with the support of the Consultants, Officers from MOSTE and several Fellows of the Academy.

The report was presented at a National Seminar on March 9th, 2000 at Park Plaza Hotel, Kuala Lumpur. About 70 participants representing various institutions and organizations were present to provide feedback and comments on the report. In order to further realign the report to the prevailing international perspectives, another seminar was organized on 11th-12th April 2000 at the Academy of Sciences Malaysia. Dato' Dr Micheala Smith and Prof Noel from CPTM (Commenwealth Partnership for Technology Management) along with Malawi Ambassador to Taiwan were present at the discussion. The discussion was led by Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc, President of the Academy of Sciences Malaysia.

Laporan tersebut telah dimajukan kepada Kementerian Sains, Teknologi dan Alam Sekitar pada 17 April 2000. Satu taklimat khas telah diatur dengan YB Menteri Sains, Teknologi dan Alam Sekitar pada 10 Mei 2000 di pejabat beliau. Dato' Dr Yusof Basiron FASc selaku ketua projek Kajian Semula Polisi S&T telah memberi taklimat kepada YB Menteri. Presiden dan Naib Presiden turut hadir di sesi taklimat tersebut.

Laporan dimajukan kepada Majlis Penyelidikan dan Kemajuan Sains Negara (MPKSN) untuk pandangan dan input setelah melalui beberapa mesyuarat Jawatankuasa Teknikal dan Pemandu. Dato' Dr Yusof Basiron FASc memberi taklimat kepada MPKSN mengenai laporan pada 7 Ogos 2000.

Mesyuarat dengan YB Menteri Pertanian Malaysia

Di atas permintaan YB Datuk Effendi Norwawi, Menteri Pertanian dan sebagai sebahagian dari sesi dialog di antara Akademi Sains Malaysia dan Menteri Pertanian, Academician Dato' Ir Lee Yee Cheong FASc, Datuk Dr Abdul Aziz S.A Kadir FASc, Tan Sri Dato' Dr Mustaffa Babjee FASc dan Dato Dr Samsudin Tugiman telah mengadakan pertemuan dengan YB Menteri Pertanian pada 11 Oktober 2000. Mesyuarat tersebut adalah untuk membincangkan mengenai agro-bioteknologi sebagai pemangkin pertumbuhan sektor pertanian negara. Mesyuarat yang dipengerusikan

A report was finally submitted to the Ministry of Science, Technology (MOSTE) and the Environment on 17th April 2000. A special briefing was also arranged with YB Minister of Science, Technology and the Environment on 10th May 2000 at his office. Dato' Dr Yusof Basiron FASc briefed the Minister in his capacity as the project leader of the S&T Policy review. The President and the Vice-President of the Academy were also present during the briefing session.

Subsequently, after going through the various Technical and Steering Committee meetings, the report was submitted to MPKSN (Majlis Penyelidikan dan Kemajuan Sains Negara) for comments and additional input. Dato' Dr Yusof Basiron FASc briefed MPKSN on the report on August 7th, 2000.

Meeting with YB Minister of Agriculture

At the request of YB Datuk Effendi Norwawi, Minister of Agriculture and as part of the continuing dialogue between the Academy and the Ministry of Agriculture, Academician Dato' Ir Lee Yee Cheong FASc, Datuk Dr Abdul Aziz S.A Kadir FASc, Tan Sri Dato' Dr Mustaffa Babjee FASc and Dato Dr Samsudin Tugiman met with the Minister of Agriculture on 11 October 2000. The meeting was to discuss the subject of agro-biotechnology, the way forward in enhancing the growth of the agriculture sector. The meeting

oleh YB Menteri itu juga dihadiri oleh Dr Saharan Anang, Ketua Pengarah MARDI, Dr Mohd Zam Zam, Timbalan Ketua Pengarah MARDI dan Prof Dr Abdul Aziz Abdul Hamid. Semasa perbincangan YB Menteri melahirkan pandangan beliau mengenai perlunya untuk mengambil pendekatan menyeluruh bagi menghasilkan satu strategi bioteknologi negara. YB Menteri mengharap penglibatan Akademi dalam perkara ini. Akademi juga telah dipinta oleh YB Menteri Pertanian untuk membantu menyediakan satu strategi nasional mengenai 'agroforestry'. Akademi sedang bekerjasama dengan MARDI untuk menganjurkan satu bengkel mengenai 'agroforestry' dan untuk menggubal strategi awal tahun hadapan.

Bengkel "Agro-Forestry"

Lanjutan dari surat yang dihantar kepada Dato' Dr Salleh Mohd Nor FASc Setiausaha Agung Akademi pada bulan Jun 2000 dan mesyuarat serta perbincangan yang diadakan di antara Fellow Akademi dan YB Menteri Pertanian, telah dipersetujui satu Bengkel mengenai "Agro-Forestry" dianjurkan pada tahun 2001.

Bengkel ini akan dianjurkan bersama oleh Akademi Sains Malaysia dan MARDI dengan tajaan oleh Kementerian Pertanian. Bengkel ini dijangka akan menghasilkan satu rangka bersepadu mengenai Agro-forestry dan satu plan tindakan.

which was chaired by the YB Minister was also attended by Dr Saharan Anang, Director General of MARDI, Dr Mohd Zam Zam, Deputy Director General of MARDI and Prof Dr Abdul Aziz Abdul Hamid. During the discussion the Minister expressed his view on the need to take overall approach towards coming up with a national biotechnology strategy. The Minister looks forward to Academy's involvement in this area. The Academy was also requested by the Minister of Agriculture to assist in the development of national strategy on agroforestry. The Academy is collaborating with MARDI to hold a national workshop on agroforestry and to prepare the national strategy early next year.

A Workshop on "Agro-Forestry"

Following a letter from YB Minister of Agriculture to Dato' Dr Salleh Mohd Nor FASc, the Secretary General of the Academy in June 2000 and subsequent meetings between officials from the Academy and the Minister of Agriculture, it was agreed that a workshop on "Agro-Forestry" be organized in 2001.

The workshop will be co-organized by the Academy of Sciences Malaysia and MARDI with sponsorship of the Ministry of Agriculture. The workshop is expected to generate a framework for a coordinated national agro-forestry program and a plan of action.

National Technology Mapping Project II

Perkhidmatan Rundingan Industri Sdn Bhd (PRIMA) anak syarikat Malaysian Industry-Government Group for High Technology (MIGHT) telah diberi tugas oleh Kerajaan untuk melaksanakan National Technology Mapping Project II (NTMP II). NTMP II adalah satu proses yang mengenal-pasti kepentingan keupayaan untuk membangunkan dan menghasilkan produk dan perkhidmatan bagi pasaran global. Peta ini akan membantu bagi memberi fokus kepada usaha negara kearah penghasilan teknologi dan keupayaan yang betul. Objetif NTMP II adalah untuk:

- Menghasilkan satu peta yang menunjukkan produk dan perkhidmatan rantaian teknologi dalam sektor strategic
- Mengenalpasti tren dalam bidang teknologi, persekitaran perniagaan, keperluan pengguna dan keupayaan akan datang bagi meningkatkan daya saing dalam pasaran global
- 'benchmark' dan mengaudit keupayaan asas yang kritikal; dan
- Menghasilkan satu pelan tindakan untuk mengurangkan jurang di antara keperluan akan datang dan keupayaan sekarang

Akademi Sains Malaysia telah dilantik untuk menganggotai Lembaga Penasihat NTPM II yang merangkumi tiga sektor iaitu industri makanan, perkayuan dan mesin.

National Technology Mapping Project II

Perkhidmatan Rundingan Industri Sdn Bhd (PRIMA), a subsidiary of Malaysian Industry-Government Group for High Technology (MIGHT) has been given the task by the Government to undertake the National Technology Mapping Project II (NTMP II). The NTMP II is a process which identifies competency priorities to develop and produce products and services for global market. The map would assist in focusing national effort in developing the right technology and competency. The objectives of NTMP II are:

- To develop a map which shows the technology chain products and services in strategic sectors;
- To identify trends in technology, business environments, customer requirements and future competencies for competitiveness in the global market;
- To benchmark and audit critical core competencies; and
- To develop a national plan of action to narrow the gaps between future needs and current capabilities

The Academy has been appointed to be on the Advisory Board to the NTMP II which covers three sectors namely food industry, wood industry and machinery.

Laporan 'Enhancing Malaysia's Agric-Food Development Through Science and Technology'

Akademi Sains Malaysia yang diketuai oleh Academician Dato' Ir Lee Yee Cheong FASc, Naib Presiden Akademi Sains Malaysia telah memajukan laporan "Enhancing Malaysia's Agric-Food Development thorugh Science and Technology" kepada Menteri Pertanian, YB Dato' Mohd Effendi Norwawi di pejabat beliau pada 1 Jun 2000. Laporan tersebut merupakan hasil seminar yang dianjurkan oleh Akademi mengenai "Future Directions and Business Opportunities in Food Production" dari 15-16 November 1999. Dato' Dr Abdul Aziz S.A. Kadir FASc, Ahli Majlis Akademi dan juga Pengerusi Jawatankuasa Pertanian Akademi memberi taklimat kepada YB Menteri mengenai laporan tersebut. YB Menteri bersetuju untuk mengkaji laporan tersebut dan cadangan-cadangan yang diperakukan dan untuk Kementerian mengambil tindakan susulan yang perlu.

Report on Enhancing Malaysia's Agric-Food Development Through Science and Technology

The Academy of Sciences Malaysia led by Academician Dato' Ir Lee Yee Cheong FASc, Vice President of the Academy of Sciences Malaysia presented a report on "Enhancing Malaysia's Agric-Food Development thorugh Science and Technology" to the Minister of Agriculture, YB Dato' Mohd Effendi Norwawi at his office on 1st June 2000. The report was an outcome of a seminar organized by the Academy on "Future Directions and Business Opportunities in Food Production" from 15th-16th November 1999. Dato' Dr Abdul Aziz S.A. Kadir FASc, Council Member of the Academy cum Chairman of the Academy's Agriculture Committee briefed the Minister on the report. The Minister agreed to study the report and the recommendations and for the Ministry to take the necessary follow-up actions.



Dato' Dr Abdul Aziz S.A. Kadir FASc memberi taklimat mengenai laporan Akademi kepada Menteri Pertanian

Dato' Dr Abdul Aziz S.A. Kadir FASc briefing the Minister of Agriculture on the Academy's report

Program Kecemerlangan Sains

Science Excellence Programme

Objektif Program Kecemerlangan Sains adalah untuk menanam Budaya Cemerlang di dalam bidang sains, kejuruteraan dan teknologi di Malaysia. Adalah penting bagi negara kita menghasilkan saintis dan ahli teknologi generasi baru yang diharapkan dapat menerajui kemajuan penyelidikan, pembangunan dan inovasi. Tahun 2000 menyaksikan banyak aktiviti yang menarik dianjurkan oleh Akademi dibawah program ini.

The objective of the Science Excellence Programme is to inculcate a Culture of Excellence in the fields of science, engineering, and technology in Malaysia. It is important for our country to produce a next generation of scientists and engineers on whom the nation will depend for major advances in research, development and innovation. The year 2000 saw many interesting activities being carried out by the Academy under this programme.

National Roundtable Conference on Emerging Issues on Sustainable Development - Challenges for Malaysia in the First Decade of the New Millennium

Akademi Sains Malaysia dan United Nations Development Programme (UNDP) telah menganjurkan satu Persidangan Mejabulat Kebangsaan mengenai 'Emerging Issues on Sustainable Development – Challenges for Malaysia in the First Decade of the New Millennium' pada 24-25 Januaru di Cyberview Lodge, Cyberjaya. Seramai 103 peserta dari kementerian, dan jabatan kerajaan, universiti, badan bukan kerajaan, organisasi antarabangsa dan multilateral, industri dan individu telah menghadiri persidangan mejabulat tersebut. Salah satu objektif persidangan adalah untuk menilai tren perubahan konsep alam sekitar serta implikasinya kepada pengurusan dan pembanguan alam sekitar Malaysia di masa akan datang. Akademi Sains Malaysia akan mengambil inisiatif untuk mempromosikan pembangunan lestari dengan menggalakkan dialog Perkongsian Pintar dikalangan 'stakeholders' dengan organisasi yang berminat di Malaysia. Akademi akan bekerjasama dengan organisasi dan agensi yang relevan untuk merangka program kerja bagi mencapai matlamat pembangunan lestari. Satu Jawatankuasa bersama akan ditubuhkan untuk mengenalpasti sumber dan punca yang penting untuk memastikan kejayaan usaha yang dicadangkan ini.

National Roundtable Conference on Emerging Issues on Sustainable Development - Challenges for Malaysia in the First Decade of the New Millennium

The Academy of Sciences Malaysia together with United Nations Development Programme (UNDP) jointly organized a National Roundtable Conference on "Emerging Issues On Sustainable Development – Challenges For Malaysia in the First Decade of the New Millennium" from 24th-25th January at Cyberview Lodge, Cyberjaya. A total of 103 participants attended the Roundtable representing the various stakeholders including the government ministries and departments, universities, NGOs, international organization, multilateral organizations, industries and individuals. One of the objectives of the Roundtable was to review the trends in changing environmental concepts over the years, as well as their possible implications for Malaysia's future management of the environment and development. The Academy of Sciences Malaysia will spearhead initiatives to promote sustainable development by facilitating Smart Partnership dialogues among stakeholders and the various interested organizations in Malaysia. The Academy will cooperate with relevant organizations and agencies to develop a work programme for achieving the goals of sustainable development. A joint working committee will be formed to identify potential sources and resources vital for the success of this proposed endeavor.

POLMET 2000: Sustainable Urban Development in the New Millennium

Satu Persidangan Antarabangsa mengenai pencemaran di bandar-bandar metropolitan yang keenam – Polmet 2000: Sustainable Urban Development in the New Millenium telah diadakan pada 20-23 Mac 2000 di Kuala Lumpur. Persidangan in dianjurkan bersama oleh Akademi dan ENSEARCH. Perdana Menteri Malaysia, YAB Dato' Seri Dr Mahathir Mohamed merasmikan persidangan selama empat hari ini. Seramai lebih kurang 148 pakar-pakar termasuk 48 orang dari 11 negara luar menghadiri persidangan ini. Lima puluh tujuh kertas polisi dan teknikal dibentangkan untuk perbincangan dan pertimbangan. Mengambil iktibar daripada Ucapan Perasmian oleh Perdana Menteri, persidangan ini menekankan tentang kepentingan adanya satu landasan bagi perbincangan terbuka yang berterusan mengenai pelbagai topik penting mengenai pembangunan bandar yang lestari di kalangan pelbagai 'stakeholders' di dalam semangat bertolak ansur, percaya dan telus. Ini menggambarkan pengabdian semangat perkongsian pintar yang didokong oleh Malaysia.

POLMET 2000:Sustainable Urban Development in the New Millennium

The 6th Internatioal Conference on Pollution in Metropolitan Cities (POLMET) 2000 was held from 20th-23rd March 2000 at Kuala Lumpur. The Academy co-organized the Conference with ENSEARCH. The Prime Minister of Malaysia, YAB Dato' Seri Dr Mahathir Mohamed officiated the 4-day Conference. A total of 148 urban experts and practitioners including 48 foreigners from 11 countries attended the Conference. Fifty seven policy and technical papers were presented for discussion and deliberations. Taking the cue from the Prime Minister's Opening Speech, the Conference amplified the importance of having a platform for a continuous open discussion on various topics of critical importance for sustainable urban development among various stakeholders in the spirit of tolerance, trust and transparency. This reflected an internalization of the spirit of smart partnership that Malaysia has been promoting.

Syarahan Memorial Ke Tiga dan Penganugerahan Geran Penyelidikan Perubatan Dr Ranjeet Bhagwan Singh Tahun 2000

Ini adalah acara tahunan di bawah Program Tabung Amanah Penyelidikan Perubatan Dr Ranjeet Bhagwan Singh. Ia diadakan di Pusat Sains Negara pada 7 Julai 2000. YB Dato' Hj Zainal Dahalan, Timbalan Menteri Sains, Teknologi dan Alam Sekitar merasmikan upacara tersebut.

Jawatankuasa Pemilihan Tabung Amanah Penyelidikan Dr Ranjeet Bhagwan Singh yang dipengerusikan oleh Dr Mak Joon Wah FASc telah memilih 3 daripada 19 pemohon untuk dianugerahkan dengan Geran Penyelidikan Perubatan Tahun 2000. Dr Rosdan Salim dari Universiti Kebangsaan Malaysia menerima RM7,000, Dr Norfilza Mokhtar dari Universiti Kebangsaan Malaysia menerima RM20,000 dan Dr Go Eng Soon dari Universiti Sains Malaysia menerima RM20,000. YB Datuk Hj Zainal Hj Dahalan menyampaikan geran kepada pemenang.

Dr Ranjeet Bhagwan Singh 3rd Memorial Lecture and Presentation of Medical Research Grants 2000

This is a yearly programme under the Dr Ranjeet Bhagwan Singh Medical Trust Fund Programme. The ceremony was held at Pusat Sains Negara on 7th July 2000. YB Dato' Hj Zainal Hj Dahalan, Deputy Minister of Science, Technology and the Environment officiated the event.

The Dr Ranjeet Bhagwan Singh Research Grant Selection Committee chaired by Prof Dr Mak Joon Wah FASc, selected three persons out of 19 applicants to be awarded the Dr Ranjeet Bhagwan Singh Medical Research Grant for the year 2000. Dr Rosdan Salim from the University of Science Malaysia received RM7000.00, Dr Norfilza Mokhtar from Universiti Kebangsaan Malaysia received RM20,000 and Dr Go Eng Soon from the University of Science Malaysia received RM20,000. YB Datuk Hj Zainal Hj Dahalan presented the grants to the winners.



YB Dato' Hj Zainal Hj. Dahalan presenting the research grant to the winner
YB Dato' Hj Zainal Dahalan menyampaikan geran penyelidikan kepada pemenang

Di bawah Program Syarahan Memorial Dr Ranjeet Bhagwan Singh Akademi telah menjemput seorang saintis terkemuka dalam bidang AIDS, Prof Dr David Ho, Pengarah, Aaron Diamond Research Center, New York untuk menyampaikan syarahan bertajuk "AIDS Epidemic and Prospects for Control". Topik ini dipilih berdasarkan perlunya saintis Malaysia mengetahui perkembangan terkini penyelidikan AIDS. Syarahan ini mendapat sambutan yang menggalakkan dengan kehadiran lebih kurang 320 orang.

Under the Dr Ranjeet Bhagwan Singh Memorial Lecture Programme, the Academy invited a renowned scientist on AIDS, Prof Dr David Ho, Director, Aaron Diamond Research Centre, New York to deliver the 3rd Dr Ranjeet Bhagwan Singh Memorial Lecture entitled "AIDS Epidemic and Prospects for Control". This topic was chosen in view of the current need for Malaysian scientists to know the latest developments on AIDS research. The lecture received overwhelming support with the attendance of 320 participants.

Bengkel "Bacteria Cell-to-Cell Communication"

Satu bengkel mengenai "Bacteria Cell-cell Communication" di bawah Program Geran Penyelidikan Perubatan Dr Ranjeet Bhagwan Singh telah diadakan di Unit Biomedical Sciences, Fakulti Perubatan, Universiti Malaya pada 16-20 Oktober 2000. Bengkel tersebut telah dihadir oleh seramai lebih kurang 31 orang peserta dan dikendalikan oleh dua pakar teknikal - Assoc. Prof Kalai Mathee dari Florida International University dan

Workshop on "Bacteria Cell-to-Cell Communication"

A workshop on "Bacteria Cell-cell Communication" under the Dr Ranjeet Bahgwan Singh Medical Research Fund Programme was held at the Biomedical Sciences Unit, Faculty of Medicine, University Malaya from 16th-20th October 2000. The workshop attended by 31 participants was conducted by two technical specialists – Assoc. Prof Kalai Mathee, Florida International



Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc menyampaikan Ucapan Penutup di Bengkel di Universiti Malaya
Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc giving the Closing Remark at the Workshop at University Malaya

Assoc. Prof Dr Zhang Lian Hui dari National University of Singapore. Pelancaran bengkel tersebut telah disempurnakan oleh Dato' Dr Salleh Mohd Nor FASc, Setiausaha Agung Akademi dan penganugerahan sijil serta penutup bengkel disempurnakan oleh Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc, Presiden Akademi Sains Malaysia. Bengkel tersebut merangkumi syarahan dan pengalaman bekerja di makmal secara 'hands-on'. Topik syarahan adalah mengenai 'quorum sensing system'.

Bengkel 'Hydraulic Research and Development in the New Millennium – Implementation of Hydraulic Research'

Satu bengkel mengenai "Hydraulic Research and Development in the New Millennium – Implementation of Hydraulic Research" telah dianjurkan oleh National Hydraulic Research Institute Malaysia (NAHRIM) dari 20-21 November 2000 di Hotel Guoman, Port Dickson. Tan Sri Dato' Ir Shahrizaila Abdullah FASc mewakili Akademi di bengkel tersebut. Objektif bengkel adalah untuk merumuskan dan mengenalpasti kaedah perlaksanaan dan metodologi penyelidikan hidraulik.

University and Assoc. Prof Dr Zhang Lian Hui of National University of Singapore. The opening was done by Dato' Dr Salleh Mohd Nor FASc, Secretary General of the Academy and the presentation of certificates to the participants and closing was done by Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc, President Academy of Sciences Malaysia. The workshop comprises lectures and hands-on laboratory experience. The lecture covered topics on quorum sensing system.

Workshop on "Hydraulic Research and Development in the New Millennium – Implementation of Hydraulic Research"

A workshop on "Hydraulic Research and Development in the New Millennium – Implementation of Hydraulic Research" was organized by the National Hydraulic Research Institute Malaysia (NAHRIM) from 20th-21st November 2000 in Guoman Hotel, Port Dickson. Tan Sri Dato' Ir Shahrizaila Abdullah FASc represented the Academy at the Workshop. The objective of the Workshop is to identify methods of implementation and methodologies of hydraulic research.

Syarahan Umum ASM "Addressing the Global Infectious Disease Threats: Nipah Virus Incidence – What's Next?"

Akademi Sains Malaysia telah menganjurkan satu syarahan umum bertajuk "Addressing the Global Infectious Disease Threats: Nipah Virus Incidence – What's Next?" pada 4 Julai 2000 di Dewan Seminar, Akademi Sains Malaysia. Syarahan tersebut disampaikan oleh Dr Aziz Jamaludin, Pengarah Institut Penyelidikan Veterinar dan Dr Azaibi Tamin, Penyelidik Kanan di Center for Disease Control and Prevention (CDC), Atlanta, USA. Moderator syarahan adalah Prof Dr Koh Chong Lek FASc. Seramai lebih kurang 38 orang menghadiri syarahan tersebut. Syarahan tersebut secara umum membincangkan pelbagai faktor yang bertanggungjawab bagi penularan dan penularan semula penyakit berjangkit dan kesediaan menghadapi cabaran ini diperingkat tempatan, negara dan antarabangsa. Pembinaan keupayaan dan pembanguan sumber tenaga manusia, keperluan instrumentasi dan 'networking' juga dibincangkan secara mendalam berdasarkan keperluan masa kini dan akan datang. Pengemaskinian mengenai sifat molekular virus dan penyelidikan yang sedang dijalankan di CDC dan di beberapa institusi penyelidikan di Malaysia juga dibincangkan.

ASM Public Lecture – "Addressing the Global Infectious Disease Threats: Nipah Virus Incidence – What's Next?"

The Academy hosted a public lecture entitled "Addressing the Global Infectious Disease Threats: Nipah Virus Incidence – What's Next?" on 4th July 2000 at the Seminar Hall, Academy of Sciences Malaysia. The lecture was presented by Dr Aziz Jamaluddin, Director, Veterinary Research Institute and Dr Azaibi Tamin, Senior Researcher, Center for Disease Control and Prevention (CDC), Atlanta, USA. The lecture was moderated by Prof Dr Koh Chong Lek FASc. About 38 people attended the lecture. The lecture discussed various factors responsible for emerging and re-emerging infectious diseases in general and the state of preparedness to address these challenges at local, state and international levels. Capacity building and human resource development, instrumentation and networking were also deliberated at length based on existing and future reqirements. An update on the molecular characterization of the virus and the on-going research at CDC and several research institutions in Malaysia were also discussed.

Bengkel Penulisan Saintifik

Satu Bengkel Penulisan Saintifik yang diadakan di Bangunan Penerbitan, Institut Penyelidikan Minyak Sawit Malaysia (PORIM) dianjurkan bersama oleh PORIM dan Akademi Sains Malaysia. Bengkel selama dua hari itu telah dijayakan oleh tiga Fellow Akademi iaitu Prof Dr Yong Hoi Sen FASc, Prof Dr Looi Lai Meng FASc dan Dr Francis Ng FASc. Bengkel tersebut dianjurkan untuk memberi panduan dan pendedahan kepada penulisan saintifik dan terutamanya untuk memenuni keperluan PORIM untuk menghasilkan penerbitan yang saintifik dan bermutu untuk diterbitkan di Malaysia dan antarabangsa. Seramai lebih kurang 30 peserta menghadiri bengkel tersebut.

Scientific Writing Workshop

The Scientific Writing Workshop which was held at the Publication Building, Palm Oil Research Institute Malaysia (PORIM) was jointly organized by PORIM and the Academy of Sciences Malaysia. The two-day workshop was successfully conducted by three Fellows of the Academy namely Dr Yong Hoi Sen FASc, Prof Dr Looi Lai Meng FASc and Dr Francis Ng FASc. The workshop was organized to provide guidelines and exposure in scientific writing and specifically to cater to the need of PORIM to produce quality papers to be published locally and internationally. About 30 participants attended the workshop.

Program Kesedaran Sains

Science Awareness Programme

Pada tahun 2000 Akademi telah menganjurkan banyak acara menarik di bawah program ini. Acara kemuncak adalah Kuiz Sains Nasional 2000 yang telah menarik penyertaan hampir seribu buah sekolah dari seluruh Malaysia. Akademi juga telah memberi tumpuan kepada usaha-usaha saintifik di Antartika dengan menganjurkan satu pameran mengenai penerokaan sains di Antartika.

In the year 2000 the Academy organized many interesting activities under this programme. The main event was the National Science Quiz 2000 which drew participation from nearly one thousand schools from all over Malaysia. The Academy also highlighted scientific endeavours in Antarctica by holding an exhibition on scientific exploration in Antarctica.

Malaysian Environmental Education Project for Schools (MEEPS)

Satu Bengkel Kebangsaan mengenai Malaysian Environmental Education Projects for Schools (MEEPS) telah diadakan di Akademi Sains Malaysia. Bengkel ini adalah anjuran bersama Akademi Sains Malaysia dan International Plant Genetic Resources Institute (IPGRI) dengan tujuan untuk memulakan satu projek jangka-masa panjang untuk mengumpulkan sumber-sumber dari pelbagai organisasi yang berkaitan dan berkerjasama dengan mereka ke arah satu pendidikan tentang alam sekitar yang lebih baik dan berjaya di sekolah-sekolah.

Woksyop Kebangsaan mengenai MEEPS ini dihadiri seramai lebih kurang 80 peserta termasuk dari Sabah dan Sarawak, mewakili sektor swasta, badan bukan kerajaan dan sektor awam. Bengkel ini dimulakan dengan ucapan alu-aluan oleh Prof Dato' Dr Zakri A. Hamid FASc, Ahli Majlis Akademi dan Dr Percy Sajise, Pengarah Serantau Asia, Pacific dan Oceania, IPGRI. Dr Gan Siowck Lee dari Universiti Putra Malaysia memberi taklimat kepada para peserta mengenai MEEPS dan ini diikuti dengan pembentangan oleh wakil-wakil dari sektor korporat, badan bukan Kerajaan dan awam

Malaysian Environmental Education Project for Schools (MEEPS)

The National Workshop on Malaysian Environmental Education Projects for Schools (MEEPS) was held on 24th February 2000 at the Academy of Sciences Malaysia. This workshop was jointly organized by the Academy of Sciences Malaysia (ASM) and the International Plant Genetic Resources Institute (IPGRI), in the hope to initiate a long-term project to pool the resources of all concerned organizations and work collaboratively with them towards a better and greater success in environmental education in schools.

This national workshop on MEEPS was attended by about 85 participants including those from Sabah and Sarawak, representing the corporate sector, non-governmental organizations and the public sector. The workshop commenced with welcome addresses by Prof Dato' Zakri A. Hamid FASc, Council Member of ASM and Dr Percy Sajise, Regional Director of Asia, the Pacific and Oceania, IPGRI. Dr Gan Siowck Lee from Universiti Putra Malaysia, briefed the participants on MEEPS and this was followed by representatives from the corporate sector, NGOs and Public on their





Dr Gan Siowck Lee dari Universiti Putra Malaysia memberi taklimat kepada peserta mengenai MEEPS

Dr Gan Siowck Lee from Universiti Putra Malaysia briefing the participants of MEEPS

mengenai Program Pendidikan Alam Sekitar mereka. Sesi tengahari ditumpukan kepada perbincangan dalam kumpulan. Bengkel ini adalah bertujuan untuk memupuk kefahaman tentang MEEPS dikalangan mereka yang berkaitan bagi menarik sokongan dan sumbangan.

Menandatangani Memorandum Perjanjian di antara ASM dan UPM

Satu Memorandum Perjanjian telah ditandantangani di antara Akademi Sains Malaysia (ASM) dan Universiti Pertanian Malaysia (UPM) pada 24 Jun 2000. Melalui MOA ini, UPM bersetuju untuk memberikan satu hektar tanahnya di Serdang, Selangor kepada ASM. ASM telah bersetuju supaya Pusat Sumber Sains dan Teknologi Kebangsaan yang dicadangkan dibina di atas tanah ini. UPM diwakili oleh Naib Canselor, Prof Tan Sri Dato' Dr Syed Jalaluddin Syed Salim FASc dan ASM diwakili oleh Presiden Akademi, Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc.

Environmental Education Programmes. The afternoon session of the workshop focused on group discussions. This workshop was intended to foster a better understanding of MEEPS among all relevant parties in order to solicit support and contribution towards it.

Signing of Memorandum of Agreement Between ASM and UPM

A Memorandum of Agreement between the Academy of Sciences Malaysia and Universiti Putra Malaysia was signed on 24th June 2000. Through this MOA, UPM agreed to allocate one hectare of its land to ASM in Serdang, Selangor. The Academy had agreed for the proposed National Science and Technology Resource Centre (NSTRC) to be built on this land. UPM was represented by the Vice Chancellor of the University, Prof Tan Sri Dato' Dr Syed Jalaluddin Syed Salim FASc and ASM was represented by the President of the Academy, Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc.



Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc (Kanan) dan Prof Tan Sri Dato' Dr Syed Jalaluddin Syed Salim FASc (Kiri) menandatangani perjanjian.
Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc (Right) and Tan Sri Dato' Dr Syed Jalaluddin Syed Salim FASc (Left) Signing the agreement

Pameran Mengenai Antartika

Satu pameran mengenai 'Scientific Exploration in Antractica: Exploring the White Continent' telah diadakan di Pusat Sains Negara, Bukit Kiara pada 20-26 November 2000. Pameran itu adalah anjuran bersama Akademi Sains Malaysia, Kementerian Sains, Teknologi dan Alam Sekitar dan Pusat Sains Negara dengan disokong oleh organisasi antarabangsa seperti National Institute for Polar Research (NIPR), Japan International Cooperation Agency (JICA), Australian Antarctic Division dan Antarctica New Zealand.

Objektif pameran tersebut adalah untuk memberi tumpuan kepada aspek saintifik Antartika dan pelbagai usaha manusia menawan benua tersebut. Ia juga bertujuan untuk memberikan kesedaran kepada orang ramai terutamanya mengenai Antartika dan nilai-nilai saintifik yang berkaitan dengannya.

Pameran itu memberi tumpuan kepada 6 tema iaitu:

- Sejarah geologi Antartika
- Penemuan Kutub Selatan
- Flora dan Fauna Antartika
- Usaha Malaysia di Antartika

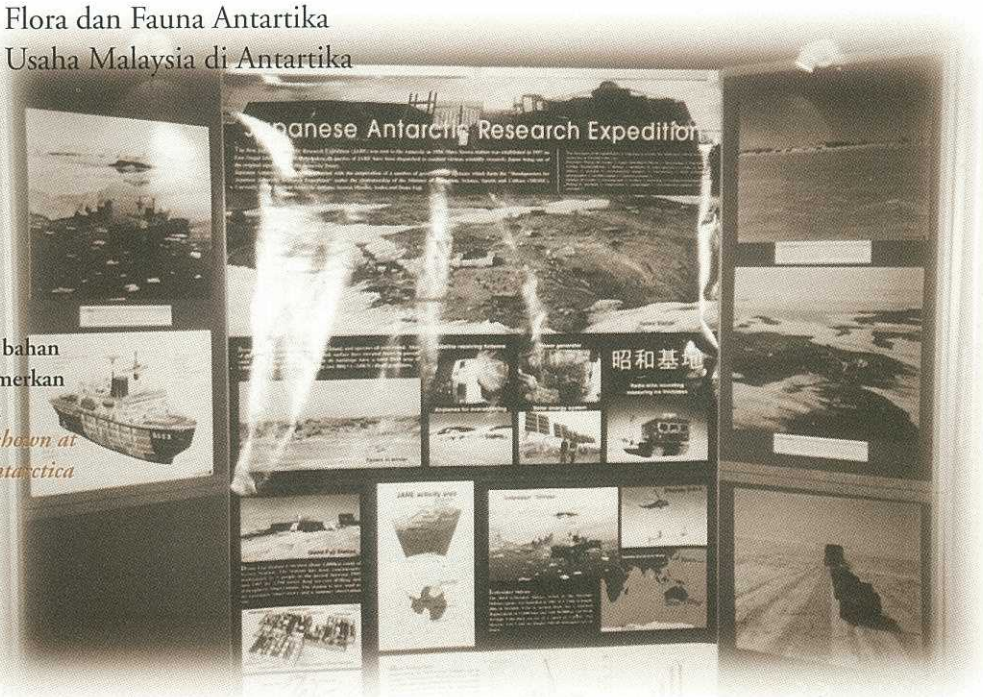
Exhibition on Antarctica

An exhibition on Scientific Exploration in Antarctica: Exploring the White Continent was held at the National Science Centre, Bukit Kiara from 20th -26th November 2000. It was jointly organized by the Academy of Sciences Malaysia, Ministry of Science, Technology and the Environment and the National Science Centre with the supports from international partners namely the National Institute for Polar Research (NIPR), Japan, Japan International Cooperation Agency (JICA), Australian Antarctic Division and Antarctica New Zealand.

The objective of the exhibition is to highlight the scientific aspects of Antarctica and the various human endeavours to conquer it. It is aimed basically at generating greater public awareness especially on Antarctica and the scientific values associated with it.

The exhibition focused on six thematic areas namely:

- The geological history of Antarctica
- The discovery of the South Pole



Salah satu daripada bahan pameran yang dipamerkan mengenai Antartika
One of the exhibits shown at the exhibition on Antarctica

– Sains di Antartika dan
– Hidup di Antartika

Perasmian pameran diadakan pada hari kedua pameran. Menteri Hal Ehwal Antarabangsa, YB Datuk Seri Syed Hamid Syed Jaafar Albar merasmikan pameran tersebut dan juga mengumumkan inisiatif baru akademi dengan Australian Antarctic Division. Seramai lebih kurang 70 orang jemputan pelawat ke Pusat Sains Negara menghadiri majlis perasmian tersebut.

Pameran itu mendapat sambutan yang agak menggalakkan dari orang ramai walaupun Antartika adalah satu subjek yang agak asing kepada kebanyakan rakyat Malaysia. Melalui pameran tersebut, Akademi telah mengambil inisiatif untuk medokumentasikan sejarah penglibatan Malaysia di Antartika dalam bentuk video mengenai "Malaysian in Antarctica", versi bercetak dan juga gambar. Usaha ini akan diteruskan sehingga semua sumbangan individu diberi penghargaan yang sewajarnya.

Kuiz Sains Nasional 2000

Kuiz Sains Nasional adalah satu acara penting yang bertujuan untuk menggalakkan kesedaran dan kecemerlangan sains dan teknologi di kalangan para pelajar yang berhasrat untuk merebut Piala Pusingan YAB Perdana Menteri. Pertandingan akhir

– The Flora and Fauna of Antarctica
– Malaysian Endeavours in Antarctica
– Science in Antarctica; and
– Living in Antarctica

The opening ceremony was held on the second day of the exhibition. The Minister of Foreign Affairs, YB Datuk Seri Syed Hamid Syed Jaafar Albar launched the exhibition and also announced the new initiative of the Academy with the Australian Antarctic Division. About 70 invitees and visitors to the National Science Centre attended the launching ceremony.

The exhibition received quite a favourable response from the public considering that Antarctica is quite a remote subject to many of the Malaysian public. Through the Exhibition, the Academy has initiated an effort to document the history of Malaysia's involvement in Antarctica in the form of Video on Malaysians in Antarctica, printed version and photographs. This effort will continue and expand until the contributions of all individuals are properly acknowledged.

National Science Quiz 2000

The National Science Quiz is a high profile event with the aim of promoting science awareness and excellence in science and technology among our students and the contestants vying for the Right Honourable Prime Minister's

Kuiz Sains Nasional diadakan di Auditoium Bahagian Teknologi Pendidikan di Bukit Kiara. Ini adalah merupakan Kuiz Sains Nasional yang ke tiga belas. Seramai lebih kurang 350 orang pelajar menghadiri pertandingan akhir tersebut dan di antara orang kenamaan yang hadir adalah Encik Ng Kam Chiu, Ketua Setiausaha Kementerian Sains, Teknologi dan Alam Sekitar, His Excellency Harald Bertil Falth, Duta Sweden ke Malaysia, wakil Duta Denmark ke Malaysia dan Encik Lars Asferg, Pengarah Novozyme (M) Sdn Bhd.

Juara Kuiz Sains Nasional 2000 adalah Sekolah Menengah Dato' Ahmad Mahir, Kelantan dan peserta terbaik jatuh kepada Muhamad Aizat bin Che A'zemi dari Sekolah Alam Shah, Wilayah Persekutuan. Pelajar – pelajar tersebut telah melawat Sweden dan Denmark dan juga menghadiri Upacara Penganugerahan Hadiah Nobel.

Penaja utama Kuiz Sains Nasional 2000 ini adalah Kementerian Sains, Teknologi dan Alam Sekitar. Piala Pusingan YAB Perdana Menteri dan lawatan ke Sweden dan Denmark ditaja oleh Novozyme (M) Sdn Bhd. Penglibatan sekolah adalah amat menggalakkan dan semakin meningkat dari tahun ke tahun. Pada tahun ini hampir seribu buah sekolah telah mengambil bahagian dalam Kuiz Sains Nasional.

Challenge Trophy. The finals of the National Science Quiz 2000 were held at the Education Technology Division Auditorium in Bukit Kiara. This was the thirteenth National Science Quiz. Around 350 students attended the finals of the Quiz and among the VIPs present were Mr Ng Kam Chiu, Secretary General of the Ministry of Science, Technology and the Environment, His Excellency Harald Bertil Falth, the Ambassador of Sweden to Malaysia, the representative of the Ambassador of Denmark to Malaysia and Mr Lars Asferg, Director of Novozyme (M) Sdn Bhd.

The champion for the National Science Quiz 2000 was Sekolah Menengah Dato' Ahmad Mahir, Kelantan and the best student award was won by Muhamad Aizat bin Che A'zemi from Sekolah Alam Shah, Wilayah Persekutuan. The students went for a trip to Sweden and Denmark to attend the Nobel Prize Ceremony.

The main sponsors of the National Science Quiz 2000 was the Ministry of Science, Technology and the Environment. The Rt Hon Prime Minister's Challenge Trophy and the prize of the trip to Sweden and Denmark are under the sponsorship of Novozyme (M) Sdn Bhd. The participation from schools has been very encouraging and has significantly increased over the years. This year the National Science Quiz drew participation from nearly one thousand schools.

Satu upacara penyerahan Piala Pusingan Kuiz Sains Nasional yang baru kepada Menteri Sains, Teknologi dan Alam Sekitar, YB Dato' Law Hieng Ding telah diadakan sebelum pertandingan akhir. Satu program lawatan untuk peserta pusingan akhir ke tempat-tempat menarik termasuk organisasi Penyelidikan dan Pembangunan (R&D) di sekitar Kuala Lumpur dan Selangor telah diadakan pada 29-30 September 2000 dengan tujuan untuk mempromosikan S&T kepada para pelajar. Satu penerbitan khas yang bertajuk "Bersama Malaysia Menjulang Hadiah Nobel" telah diadakan pada 6 Oktober 2000 di Sekolah Alam Shah, Kuala Lumpur. Penerbitan ini adalah bertujuan untuk mempromosikan Kuiz Sains Nasional dan memberi kesedaran sains dikalangan para pelajar dengan satu wawasan seperti aspirasi Malaysia untuk memenangi Hadiah Nobel dalam bidang sains. Sebanyak 1000 naskah buku telah diedarkan disekolah-sekolah di seluruh Malaysia. Akademi merancang untuk menganjurkan Kuiz Sains Nasional diperingkat negeri, kawasan dan kebangsaan pada tahun hadapan.

A ceremony to hand over the new trophy for the National Science Quiz 2000 to the Minister of Science, Technology and the Environment, YB Dato' Law Hieng Ding was held prior to the final of the Quiz. A visit programme was also arranged for the finalists from 29th-30th September 2000, to R&D organizations and facilities in Selangor and Wilayah Persekutuan with an aim to promote S&T among the students. A launch of the Special Publication entitled "Bersama Malaysia Menjulang Hadiah Nobel" was held in Sekolah Alam Shah, Kuala Lumpur on 6th October 2000. The publication aims to promote the National Science Quiz and increase science awareness among students with a greater vision in mind i.e Malaysia's aspiration to win a Nobel Prize in Science. Around 1000 copies of the publication will be distributed to schools around Malaysia. The Academy plans to organize the Quiz at the state, regional and national level next year.



Pemenang Kuiz Sains Nasional 2000 dengan penaja
Winners of the National Science Quiz 2000 with the sponsors

Membantu Meningkatkan Keupayaan Teknologi Industri Malaysia

Assisting in Upgrading Technological Capability in Malaysian Industry

Satu daripada komponen penting dalam ekonomi negara yang memerlukan input sains, kejuruteraan dan teknologi adalah sektor industri. Pada tahun 2000, Akademi dengan kerjasama Japan Science and Technology Corporation (JST) menganjurkan dua forum industri peringkat tinggi.

One important component in the country's economy which needs strong SET input is the industrial sector. In 2000, the Academy, in collaboration with the Japan Science and Technology Corporation (JST) organized two high level industry fora.

Forum ASM-JST 2000 yang Ketiga "Promoting Innovation in Industry: The Critical Aspects of Research Institutions-Industry Interaction"

Forum ASM-JST yang ketiga ini diadakan di Institute Penyelidikan Minyak Kelapa Sawit Malaysia (PORIM). Forum ini dianjurkan bersama oleh Japan Science and Technology Corporation (JST) dan Akademi Sains Malaysia dan juga oleh Kementerian Sains, Teknologi dan Alam Sekitar dengan PORIM sebagai hos. Seramai lebih kurang 100 perserta dari pelbagai agensi kerajaan, universiti, institut penyelidikan dan badan-badan professional SET menghadiri Forum ini. Tiga panelis dijemput untuk memberi pandangan mengenai topik yang dibincangkan. Forum ini dipengerusikan oleh Dato' Dr Abdul Aziz S.A Kadir FASc. Pembentangan yang pertama adalah oleh Prof Dr Masayoshi Morimoto, Profesor Jemputan di PORIM mengenai "Sciencè and Technology in Japan", kertas kerja kedua bertajuk "Promoting Innovation in Industry: The Critical Aspects of Research Institutions-Industry Interactions-SIRIM Experience" dibentangkan oleh Dato' Dr Ariffin Hj Aton FASc, CEO SIRIM dan pembentangan ketiga adalah oleh Prof Datuk Dr Mohd Zawawi Ismail FASc, Naib Canselor Universiti Malaysia Sarawak mengenai "Promoting Innovation in Industry: The Critical Aspects of Univeristy-Industry Interactions".

3rd ASM-JST Forum 2000 on "Promoting Innovation in Industry: The Critical Aspects of Research Institutions-Industry Interaction"

This third ASM-JST Forum, was held at the Palm Oil Research Institute Malaysia (PORIM) on 21st March 2000. It was jointly organized by the Japan Science and Technology Corporation (JST) and the Academy of Sciences Malaysia and co-organized by the Ministry of Science, Technology and the Environment with PORIM as the host. Around 100 participants attended the Forum from various government agencies, universities, research institutes and associated professional SET bodies. Three panelists were invited to present their views on the topic discussed and the Forum was chaired by YBhg Dato' Dr Abdul Aziz S.A Kadir FASc. The first presentation was by Prof Dr Masayoshi Morimoto, Guest Professor at PORIM entitled "Science and Technology in Japan", the second presentation was by YBhg Dato' Dr Ariffin Hj Aton FASc, CEO of SIRIM entitled "Promoting innovation in industry: The critical aspects of Research Institutions-Industry Interactions-SIRIM experience" and the third presentation was by YBhg Prof Datuk Dr Mohd Zawawi Ismail FASc, Vice Chancellor of Universiti Malaysia Sarawak, entitled "Promoting Innovation in Industry: The Critical Aspects of University-Industry Interactions".

Program Antarabangsa

International Programme

Fokus Program Antarabangsa Akademi adalah pada kerjasama dengan negara-negara ASEAN, Asia, Komenwel dan Islam yang maju dalam bidang sains dan teknologi. Pada tahun 2000, Akademi bergiat aktif di peringkat serantau dan global. Akademi menghadiri banyak mesyuarat dan persidangan antarabangsa. Akademi juga menghantar delegasinya ke Three Gorges Project di Republik Rakyat China.

The Academy's International Programme focuses on collaboration with countries advanced in science and technology from ASEAN, Asia, Commonwealth and Islamic countries. In 2000, the Academy has been very active at the regional and global levels. The Academy also sent its delegation to the Three Gorges Project in the People's Republic of China.

Lawatan Delegasi ASM ke Three Gorges Project

Akademi mengetuai satu delagasi jurutera dan saintis melawat Three Gorges Project (TGP) dari 20-24 Jun 2000 untuk meninjau kemudahan latihan dan yang berkaitan serta membincangkan terma dan kondisi untuk mengadakan program 'attachment' di antara universiti dan badan-badan korporat Malaysia dengan China Three Gorges Project Developmet Corporation (CTGPC). Delegasi ASM yang seramai sepuluh orang diketuai oleh Naib Presiden Akademi, Academician Dato' Ir Lee Yee Cheong FASc dan terdiri daripada wakil-wakil dari Kementerian Tenaga, Telekomunikasi dan Multimedia, Tenaga Nasional Berhad, TNB Hydro Sdn Bhd, TNB Engineers Sdn Bhd, Universiti Tenaga Malaysia, NAHRIM, Universiti Kebangsaan Malaysia, Universiti Industri Selangor dan Universiti Teknologi MARA. Delegasi ASM disambut oleh Encik Wang Jia Zhu, Naib Presiden CTGPC yang menekankan tentang kesediaan CTGPC untuk menerima jurutera Malaysia, saintis dan pelajar di TGP. Sebagai permulaan 10 jurutera dari Malaysia akan menjalani latihan di TGP pada tahun 2001.

Visit of ASM Delegation to the Three Gorges Project

The Academy led a delegation of engineers and scientists to visit the Three Gorges Project (TGP) from 20th-24th June 2000 to examine the training and associated facilities and to discuss the terms and conditions to develop attachment programmes between Malaysian universities and corporations and China Three Gorges Project Development Corporation (CTGPC). The ASM delegation of ten members was led by the Vice President, Academican Dato' Ir Lee Yee Cheong FASc and comprised of representatives from the Ministry of Energy, Communications and Multimedia, Tenaga Nasional Berhad, TNB Hydro Sdn Bhd, TNB Engineers Sdn Bhd, Universiti Tenaga Malaysia, NAHRIM, Universiti Kebangsaan Malaysia, Universiti Industri Selangor and Universiti Teknologi MARA. The ASM delgation was welcomed by Mr Wang Jia Zhu, Vice President of CTGPC who reinterated CTGPC's great interest in receiving Malaysian engineers, scientists and students to TGP. As a start, about 10 Malaysian engineers will be on attachment training with TGP in 2001.

Eighth Asian Conference on Scientific Cooperation (ACSC) dan the Founding General Assembly of the Science Council of Asia (SCA)

ACSC kelapan telah diadakan pada 13-18 Mei 2000 di Tokyo, Jepun. Peserta ACSC ini juga menghadiri Persidangan World's Scientific Academies (IAP 2000). Science Council of Japan (SCJ) telah menjadi hos kepada ACSC semenjak tahun 1993 lagi. Negara-negara yang mengambil bahagian adalah Republik Rakyat China, India, Indonesia, Republik Korea, Malaysia, Filipina, Singapura, Thailand, Vietnam dan Jepun. Perbincangan bertumpu kepada input untuk IAP 2000, penubuhan Science Council of Asia (SCA) dan persedian awal untuk Persidangan SCA yang pertama. Akademi telah diwakili oleh Presiden, Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc dan Naib Presiden Academician Dato' Ir Lee Yee Cheong FASc. Seorang lagi wakil delegasi adalah Puan Adilah Mohd Din, Timbalan Pengarah, Bahagian Sains dan Teknologi, Kementerian Sains, Teknologi dan Alam Sekitar.

Melalui persidangan ini Presiden pro-tem, Naib Presiden/Presiden

Eighth Asian Conference on Scientific Cooperation (ACSC) and the Founding General Assembly of the Science Council of Asia (SCA)

The 8th ACSC was held from 13th - 18th May 2000 in Tokyo, Japan. The ACSC participants also attended the Conference of the World's Scientific Academies (IAP 2000). The Science Council of Japan (SCJ) has hosted the ACSC since 1993. The participating countries were the People's Republic of China, India, Indonesia, the Republic of Korea, Malaysia, Philippines, Singapore, Thailand, Vietnam and Japan. The focus of discussion at this Conference included inputs to the IAP 2000, the establishment of the Science Council of Asia (SCA) and the initial preparation for the first SCA Conference. The President, Academician Tan Sri Dato' Dr Omar Abdul Rahman FASc with Vice President, Academician Dato' Ir Lee Yee Cheong FASc represented the Academy. The other delegate from Malaysia was Puan Adilah Mohd Din, Deputy Director, Science and Technology Division, Ministry of Science, Technology and the Environment.

Through this Conference the pro-tem President, the pro-tem Vice



Para peserta di ACSC
Participants at the ACSC

dilantik pro-tem dan Setiausaha Agung/Bendahari pro-tem SCA telah dilantik daripada ahli-ahli Lembaga Pengurusan pro-tem. Prof Dr Montri Chulavatnatol dari National Thai Academy of Science and Technology dan Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc dari Akademi Sains Malaysia masing-masing telah dilantik sebagai Presiden pro-tem dan Naib Presiden/Presiden Dilantik pro-tem, dan Prof Dr Satohiko Sasaki, Naib Presiden SCJ, telah dilantik sebagai Setiausaha Agung/ Bendahari pro-tem. SCA General Assembly dan persidangan kedua akan diadakan pada 18-12 Mei 2001 dan dihos oleh Thailand.

President/President Elect, and the pro-tem Secretary General/Treasurer of the SCA were elected from among members of the pro-tem Management Board. Prof Dr Montri Chulavatnol of the National Thai Academy of Science and Technology and Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc of the Academy of Sciences Malaysia were elected to serve as the pro-tem President and the pro-tem Vice-President/President-Elect respectively, and Prof Dr Satohiko Sasaki, Vice President of SCJ, was elected to serve as the pro-tem Secretary General/Treasurer. The 2nd SCA General Assembly and Conference to be held on 18th-12th May 2001 will be hosted by Thailand.

Projek R&D Malaysia di Antartika

Satu seminar Antarabangsa "Antarctica Research: Challenges and Experiences" telah diadakan di INTAN pada 29-30 Mei 2000. Seminar tersebut telah dirasmikan oleh YB Dato' Hj Zainal Dahalan, Timbalan Menteri Sains, Teknologi dan Alam Sekitar. Objektif Seminar tersebut adalah untuk memberi kesedaran dan menarik minat orang ramai dan komuniti saintifik mengenai Antartika dan isu-isu yang berkaitan dengannya, untuk belajar daripada agensi-agensi penyelidikan negara-negara yang terlibat dengan

Malaysian R&D Projects in Antarctica

An International Seminar on "Antarctica Research: Challenges and Experiences" was held on 29-30 May 2000 at INTAN. The Seminar was officially opened by YB Dato' Hj Zainal Hj Dahalan, Deputy Minister of Science, Technology and the Environment. The objective of the seminar was to create awareness and generate interest in the public and scientific community about Antarctica and its issues, to learn from various national research agencies of different countries

Antarctica Treaty System (ATS) mengenai sokongan, strategi dan sustainability penyelidikan saintifik mereka di Antartika dan juga untuk membincangkan mengenai feasibility penyelidikan yang dicadangkan oleh para saintis Malaysia yang berminat. Empat speaker dari luar negara telah dijemput iaitu Dr Robert Rutford, Pengerusi Scientific Committee on Antarctica Research (SCAR), Prof Kazuo Shibuya, National Institute of Polar Research, Jepun, Dr Michael Stoddart, Chief ANARE Scientist, Australian Antarctic Division dan Dr Dean Peterson, Antarctica New Zealand dan seorang penceramah tempatan, Prof Madya Dr Azizan Abu Samah, Universiti Malaya membentangkan kertas kerja di Seminar tersebut. Seramai lebih kurang 60 peserta menghadiri Seminar tersebut.

Hasil dari Seminar ini Australian Antarctic Division telah menjemput dua orang saintis Malaysia untuk mengikuti expedisi mereka yang akan datang ke pangkalan Australia di Antartika.

involved in the Antarctica Treaty System (ATS), regarding the support strategy and sustainability of their scientific research in the Antarctica and to discuss the feasibility of proposals for research in the Antarctica submitted by interested Malaysian scientists. Four invited foreign speakers: Dr Robert Rutford, Chairman of Scientific Committee on Antarctica Research (SCAR), Prof Kazuo Shibuya, National Institute of Polar Research, Japan, Dr Michael Stoddart, Chief ANARE Scientist, Australian Antarctic Division and Dr Dean Peterson, Antarctica New Zealand and one local speaker, Assoc Prof Dr Azizan Abu Samah, University of Malaya presented their papers at the Seminar. About 60 participants attended the Seminar.

As the result from the Seminar the Australian Antarctic Division has extended an invitation for two Malaysian scientists to participate in their coming voyage to the Australian base in the Antarctica.

Penceramah di Seminar Antarabangsa menyenai penyelidikan di Antartika
The speakers at the international seminar on Antarctica Research



Lawatan Chinese Academy of Social Sciences' (CASS) ke Akademi Sains Malaysia

Pada 23 Februari 2000, satu delegasi dari Chinese Academy of Social Sciences (CASS) telah melawat Akademi Sains Malaysia (ASM). Delegasi dari CASS yang diketuai oleh Presiden Prof Li Tieying adalah seramai 14 orang yang terdiri daripada wakil-wakil dari pelbagai bahagian dan institut. Mereka disambut oleh Prof Chia Swee Ping FASc dan Academician Dr M.K. Rajakumar FASc. Semasa lawatan kedua-dua Akademi berbincang mengenai kemungkinan mengadakan kerjasama duahala.

Chinese Academy of Social Sciences' (CASS) Visit to the Academy of Sciences Malaysia

On the 23rd February 2000, a delegation from the Chinese Academy of Social Sciences (CASS) visited the Academy of Sciences Malaysia (ASM). The CASS's delegation comprised 14 members from various divisions and institutes headed by its President Prof Li Tieying. Prof Chia Swee Ping FASc and Academician Dr M.K. Rajakumar FASc welcomed them at the ASM Office. During the meeting, both Academies discussed possible collaboration efforts.

Forum Mengenai "South-South Cooperation in Science and Technology"

Datuk Dr Yusof Basiron FASc telah menghadiri Forum mengenai South-South Cooperation in Science and Technology' di Seoul, Korea pada 14-17 Februari 2000. Di antara topik yang dibincangkan di Forum tersebut adalah mengenai cabaran pembangunan yang dihadapi oleh negara-negara Selatan dan tentang peluang yang ditawarkan oleh sains dan teknologi dalam menghadapi cabaran tersebut melalui kerjasama 'Selatan-Selatan' dalam bidang sains dan teknologi.

Forum on "South-South Cooperation in Science and Technology"

Datuk Dr Yusof Basiron FASc attended the Forum on South-South Cooperation in Science and Technology in Seoul, Korea from 14th-17th February 2000. Among the topics discussed at the Forum were the enormous challenges of development facing the countries of the South and the vast opportunities that science and technology offer in meeting these challenges through the South-South cooperation in science and technology.



Delegasi CASS bersama dengan Fellow Akademi
CASS delegation with the Fellows of the Academy

Lawatan Ke Organisasi P&P Jepun

Lawatan ke Jepun pada 27 Feb-4 Mac 2000 adalah memenuhi undangan Japan Science and Technology Corporation (JST). Delegasi Malaysia seramai tiga orang diketuai oleh Prof Tan Sri Dato' Dr Syed Jalaludin Syed Salim FASc, Naib Canselor Universiti Putra Malaysia. Objektif lawatan adalah antara lain untuk mempelajari secara lebih mendalam mengenai aktiviti dan polisi sains dan teknologi semasa yang berkaitan dengan kerjasama antarabangsa; untuk melawat organisasi P&P tertentu; dan untuk mencadangkan program pertukaran penyelidik yang lebih baik di antara Jepun dan Malaysia.

Dua hari telah diperuntukkan untuk mesyuarat dan perbincangan dengan penggubal polisi Jepun dan pengurus program usahasama antarabangsa dari JST dan Science and Technology Agency (STA). Tiga hari dikhususkan untuk lawatan penyelidikan swasta dan kerajaan di Jepun.

4th ASEAN SET Academies Meeting

Mesyuarat Tahunan ASEAN SET Academies yang ke empat dihoskan oleh Indonesian National Academy of Science. Ia diadakan di President Hotel, Jakarta dari 16-17 Oktober 2000. Seramai 31 delegasi dari Akademi 11 buah negara

Study Visit to Japanese R&D Organizatios

The study visit to Japan from 27th Feb – 4th March 2000 was undertaken at the invitation of the Japan Science and Technology Corporation (JST). The three member delegation was headed by Prof Tan Sri Dato' Syed Jalaludin Syed Salim FASc, Vice Chancellor of Universiti Putra Malaysia. The objectives of the visit were to establish a better understanding of current science and technology policies and activities with regard to international cooperation; to visit selected R&D organizations and centers of excellence and to recommend a more effective researcher exchange program between Malaysia and Japan.

Two days were devoted to meetings and discussions with Japanese policy makers and program managers of international cooperative programs for JST and Science and Technology Agency (STA) and three days were scheduled for visits to Japanese national and private research institutions.

4th ASEAN SET Academies Meeting

The 4th Annual Meeting of ASEAN SET Academies was hosted by the Indonesian National Academy of Science. It was held at the President Hotel, Jakarta from 16th –17th October 2000. A total of 31 delegates from Academies of 11 countries attended

menghadiri mesyuarat dan persidangan mejabulat tersebut. Akademi diwakili oleh seramai 4 orang iaitu: Academician Tan Sri Datuk Dr Omar Abdul Rahman Fasc, Presiden Academi Sains Malaysia, Academician Dato' Ir Lee Yee Cheong FASc, Naib Presiden, Datuk Dr Abdul Aziz S.A Kadir FASc, Ahli Majlis Akademi dan Dato' Dr Samsudin Tugiman, Pengarah Eksekutif. Hari pertama mesyuarat dikhususkan untuk perbincangan mejabulat di antara perwakilan dengan tema "Science Driven Development and the Enhancement of the Welfare of South East Asian Communities". Sebanyak sembilan kertas kerja dibentangkan semasa tiga sesi perbincangan. Dua wakil dari Akademi iaitu Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc dan Academician Dato' Ir Lee Yee Cheong FASc masing-masing membentangkan kertas kerja mengenai "Science and Technology in the K-economy – The Malaysian Perspective" dan "Science, Engineering and Technology and Sustainability". Delegasi juga melawat Eijkman Institute for Molecular Biology dan Taman Botani di Bogor.

the Meeting and the Roundtable. The Academy was represented by 4 delegates namely: Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc, President Academy of Sciences Malaysia, Academician Dato' Ir Lee Yee Cheong FASc, Vice President, Datuk Dr Abdul Aziz S.A Kadir FASc, Council Member and Dato' Dr Samsudin Tugiman, Executive Director. The first day of the meeting was devoted to Roundtable discussions among delegates on the theme "Science Driven Development and the Enhancement of the Welfare of South East Asian Communities". Nine papers were presented during the three sessions of the Roundtable. Two speakers from the Academy namely Academician Tan Sir Omar and Dato' Lee presented papers on "Science and Technology in the K-economy – The Malaysian Perspective" and "Science, Engineering and Technology and Sustainability" respectively. The delegates also visited Eijkman Institute for Molecular Biology and Botanical Garden in Bogor.

Mesyuarat dengan Bureau of Economic And Functional Cooperation, ASEAN Secretariat, Jakarta

Academician Dato' Ir Lee Yee Cheong FASc, Naib Presiden, Akademi Sains Malaysia, Dato' Dr Samsudin Tugiman, Pengarah Eksekutif, Akademi Sains Malaysia dan Dr Mohamad Ridwan, Setiausaha Agung, Indonesian National Academy of Science telah mengadakan satu mesyuarat dengan Dr Ir Azmi Mat Akhir, Pengarah Bureau of Economic and Functional Cooperation, ASEAN Secretariat pada 2 Oktober 2000. Objektif mesyuarat tersebut adalah untuk menghidupkan semula semangat ASEAN-CASE dan untuk meninjau peluang bekerjasama dengan ASEAN Secretariat dan juga mengambil tindakan susulan kepada cadangan-cadangan di mesyuarat yang lalu. Di antara perkara yang ditekankan di dalam mesyuarat tersebut adalah persetujuan supaya ASEAN Secretariat bekerjasama dengan lebih erat dengan ASEAN-CASE dan untuk menggunakan sumber sains dan teknologinya yang luas dan pelbagai. Akademi dalam negara-negara ASEAN melalui rangkaian kerja di peringkat serantau dan antarabangsa adalah mempunyai kedudukan yang strategik untuk memberi nasihat dan menjalankan kajian bagi pihak ASEAN-Secretariat.

Meeting with Director, Bureau of Economic and Functional Cooperation, ASEAN Secretariat, Jakarta

Academician Dato' Ir Lee Yee Cheong FASc, Vice President, Academy of Sciences Malaysia, Dato' Dr Samsuidn Tugiman, Executive Director, Academy of Sciences Malaysia and Dr Mohamad Ridwan, Secretary General, Indonesian National Academy of Science had a meeting with Dr Ir Azmi Mat Akhir, Director of Bureau of Economic and Functional cooperation, ASEAN Secretariat on 2nd October 2000. The objectives of the meeting were to revive the spirit of ASEAN-CASE and to further explore the possibility of working together with ASEAN Secretariat and to follow up on the recommendations during previous meetings. Among the highlights of the meeting were the agreement that ASEAN Secretariat should work closely with ASEAN-CASE and to tap its rich and diverse resources in science and technology. The Academies in ASEAN through its networking at the regional and international level are in a strategic position to give advice and undertake studies on behalf of ASEAN-Secretariat.

6th Asia-Pacific Science and Technology Management Seminar

Dato' Dr Samsudin Tugiman, Pengarah Eksekutif Akademi Sains Malaysia menghadiri seminar '6th Asia-Pacific Science and Technology Management' di atas jemputan Japan Science and Technology Coorporation (JST) di Hanoi, Vietnam pada 7-9 November 2000. Tema Seminar tersebut adalah "National Innovation System (NIS) – How to Maintain a Sustainable Growth of the Asia-Pacific Region". Seminar menekankan mengenai sistem untuk industri makanan, perumahan dan pengangkutan.

6th Asia-Pacific Science and Technology Management Seminar

Dato' Dr Samsudin Tugiman, Executive Director, Academy of Sciences Malaysia attended the 6th Asia-Pacific Science and Technology Management at the invitation by Japan Science and Technology Coorperation (JST) in Hanoi, Vietnam from 7th -9th November 2000. The theme of the Seminar is "National Innovation System (NIS) – How to Maintain a Sustainable Growth of the Asia-Pacific Region". The Seminar focused on systems for food industry, housing industry and transportation.

Mesyuarat KOSEF-AUN Mengenai Program ASEAN Post-Doctoral Fellowship

Dato' Dr Samsudin Tugiman, Pengarah Eksekutif Akademi Sains Malaysia telah menghadiri mesyuarat KOSEF-AUN mengenai Program ASEAN Post-doctoral Fellowship di Phuket, Thailand pada 25 April 2000 diatas jemputan Korean Science and Engineering Foundation (KOSEF). Mesyuarat tersebut turut dihadiri oleh delegasi dari Korean Science and Engineering Foundation (KOSEF), Office of ASEAN University Network Secretariat (AUNS), Nominating dari Indonesia, Filipina, Singapura, Thailand dan Vietnam. KOSEF telah menamakan

KOSEF-AUN Working Level Meeting of ASEAN Post-Doctoral Fellowship Programme

Dato' Dr Samsudin Tugiman, Executive Director of Academy of Sciences Malaysia attended the KOSEF-AUN Working Level Meeting of ASEAN Post-doctoral Fellowship Programme in Phuket, Thailand on 25th April 2000 at the invitation of Korean Science and Engineering Foundation (KOSEF). The meeting was attended by delegates from the Korea Science and Engineering Foundation (KOSEF), the Office of ASEAN University Network Secretariat (AUNS), Nominating Authorities from Indonesia, Philippines, Singapore, Thailand and Vietnam.

Akademi Sains Malaysia sebagai 'nominating authority' bagi Malaysia untuk mengendalikan ASEAN Post Doctoral Fellowship Programme yang menawarkan peluang para saintis luar untuk membuat penyelidikan post-doctoral di Korea.

KOSEF has nominated the Academy of Sciences Malaysia to be the nominating authority for Malaysia to manage the ASEAN Post Doctoral Fellowship Programme which offers the opportunity to selected foreign scientists the Fellowships to do post doctoral research in Korea.

Mesyuarat Commonwealth Agricultural Bureuau International (CABI) Asia Member Governments

Pengarah Eksekutif Akademi, Dato' Dr Samsudin Tugiman menghadiri mesyuarat CABI Asia Member Governments pada 11 Ogos 2000 di Legend Hotel, Kuala Lumpur. Mesyuarat ini telah dianjurkan buat pertama kali di Asia dan telah menarik kehadiran delagasi dari 12 negara ahli CABI termasuk agensi rakan kongsi utama. Dr Denis Blight, Ketua Pengarah CABI, dan beberapa pegawai kanan CABI menghadiri mesyuarat tersebut untuk mengendalikan sesi perbincangan. Mesyuarat tersebut dirasmikan oleh Dato' Annuar Ma'aruf, Ketua Setiausaha Kementerian Pertanian Malaysia.

Commonwealth Agricultural Bureuau International (CABI) Asia Member Governments Meeting

The Executive Director of the Academy, Dato' Dr Samsudin Tugiman attended the CABI Asia member governments meeting which was held on 11th August 2000 at the Legend Hotel, Kuala Lumpur. This meeting was organized for the first time in Asia and brought together delegates from 12 CABI Asia member countries as well as key partners agencies of CABI. Dr Denis Blight, the Director General of CABI, and several senior staff of CABI attended the meeting to spearhead and facilitate the sessions of this meeting. The meeting was officially opened by Dato' Annuar Ma'aruf, the Secretary General of the Ministry of Agriculture.

Persidangan World's Scientific Academies on "IAP 2000 Transition to Sustainability Conference"

Persidangan IAP 2000 Transition to Sustainability diadakan di Tokyo dari 15-18 Mei 2000. Selepas dua tahun persediaan oleh Jawatankuasa Penyelaras seramai 13 ahli yang turut dianggotai oleh Akademi, persidangan tersebut menarik penyertaan dari 58 buah negara. Maharaja Jepun menyempurnakan upacara penutup persidangan. Kebanyakan peserta adalah dari akademi sains negara-negara yang menyertai persidangan, dengan beberapa dari akademi kejuruteraan dan perubatan. Delegasi Malaysia adalah diantara yang paling ramai ahlinya dengan enam peserta iaitu Presiden Akademi, Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc, Naib Presiden, Academician Dato' Ir Lee Yee Cheong FASc dan Ahli Majlis, Prof Dr Looi Lai Meng FASc, Prof Dr Nordin Hassan dari LESTARI, Dr Soon Ting Kueh dari FASAS dan Cik Adilah Mohd Din dari Kementerian Sains, Teknologi dan Alam Sekitar. Presiden Akademi membentangkan kertas kerja bertajuk "Sustainable Development: A Vision for Asia: A Prosperous and Greener Asia".

Conference of the World's Scientific Academies on "IAP 2000 Transition to Sustainability Conference"

The IAP 2000 Transition to Sustainability Conference was held in Tokyo from 15th-18th May 2000. After 2 years of preparation by a 13-member Coordinating Committee of which ASM is a member, the Conference drew participation from 58 countries . His Majesty the Emperor of Japan hosted the closing reception. The participants were mostly from scientific academies of the countries represented, with a few from the academies of engineering and medicine. Malaysia had one of the biggest delegations with six participants namely ASM President, Academician Tan Sri Datuk Dr Omar Abdul Rahman FASc, Vice President, Academician Dato' Ir Lee Yee Cheong FASc and Council Member, Prof Dr Looi Lai Meng FASc, Prof Dr Nordin Hassan of LESTARI, Dr Soon Ting Kueh of FASAS and Ms Adilah Mohd Din from the Ministry of Science, Technology and the Environment. At the Conference the Academy's President presented a paper entitled "Sustainable Development: A Vision for Asia: A Prosperous and Greener Asia".

International Conference on Primary School Science and Mathematics Education

International Council for Science (ICSU) dan Jawatankuasanya 'Capacity building in Science' (CCBS) menganjurkan Persidangan Antarabangsa yang pertama mengenai 'Primary School Science and Mathematics' di Beijing, Republik Rakyat China pada 1-4 November 2000 dengan kerjasama Beijing Normal University dan China Association for Science and Technology (CAST).

Objektif utama persidangan adalah untuk melancarkan satu inisiatif baru yang akan mengumpulkan beberapa badan ICSU untuk menyumbangkan kepada pembangunan keupayaan dalam sains. Persidangan itu menekankan strategi pengajaran 'hands-on' untuk pelajar dan inisiatif latihan baru untuk guru-guru sains dan matematik sekolah rendah. Sebanyak 20 negara menghantar wakil ke persidangan ini, delegasi Malaysia seramai lima orang diketuai oleh Dato' Dr Abdul Aziz S.A Kadir FASc. Turut serta adalah Tengku Sharizad Tengku Dahlan dari Akademi Sains Malaysia dan Encik Zainol Badli Budiman, Encik Tan Ying Kee serta Puan Zainon Abdul Majid dari Kementerian Pendidikan Malaysia.

International Conference on Primary School Science and Mathematics Education

The International Council for Science (ICSU) and its Committee on Capacity Building in Science (CCBS) held their first International Conference on Primary School Science and Mathematics in Beijing, People's Republic of China from November 1st-4th, 2000 in collaboration with the Beijing Normal University and China Association for Science and Technology (CAST).

The principle objective of the conference was to launch a new initiative which would bring together a number of ICSU bodies to contribute to capacity building in science. The particular emphasis of the Conference was to introduce 'hands-on' teaching strategies for students and new training initiatives for primary science and mathematics teachers.

About 20 countries were represented at the Conference. The five-member delegation from Malaysia was led by Dato' Dr Abdul Aziz S.A Kadir FASc. The other members of the delegation were Tengku Sharizad Tengku Dahlan of the Academy of Sciences Malaysia, Encik Zainol Badli Budiman, Encik Tan Ying Kee and Puan Zainon Abdul Majid of Ministry of Education Malaysia.

Suatu perkara yang amat ketara di persidangan ini adalah semua perwakilan meluahkan masalah yang sama. Kebanyakan guru-guru sekolah rendah tidak mendapat latihan yang secukupnya dalam bidang sains dan matematik. Di semua negara juga lahir kesedaran bahawa untuk menggunakan sains, matematik dan teknologi bagi tujuan pembangunan keupayaan untuk kemajuan manusia sejagat adalah tertakluk kepada kejayaan pendidikan kanak-kanak, terutamanya dalam bidang sains, matematik dan teknologi.

It was characteristic of the meeting that representatives of all regions raised problems that were common. Primary school teachers are in general poorly trained in mathematics and science. In all regions also there is a growing realization that any hope of building capacity to use science, mathematics and technology to advance the human condition rests on the success in the education of children, especially in science, mathematics and technology.

Pelawat *Visitors*

PELAWAT/VISITORS

Tarikh/Date	Pelawat/Visitors
23rd February 2000	Delegation from the Chinese Academy of Social Sciences (CASS) visit to the Academy
13th June 2000	Visit by YB Dato' Mohd Effendi Norwawi Minister of Agriculture
1st December 2000	Official visit by Mr Ng Kam Chiu, Secretary General, Ministry of Science, Technology and the Environment

LAWATAN/VISITS

Tarikh/Date	Pelawat/Visitors
20th-24th June 2000	Visit of ASM led Delegation to the Three Gorges Project, Yichang, Peoples' Republic of China
27th Feb -4th March 2000	Study Visit to Japanese R & D Organizations
24th July 2000	Visit to the National Science and Technology Board Singapore
5th-14th December 2000	Visit to Sweden and Denmark to attend the Nobel Prize Ceremony
6th-7th November 2000	Visit to the National Science and Technology Board (NSTB) Singapore and the Singapore Science Center

Penerbitan

Publications

Senarai penerbitan Akademi bagi tahun 2000 adalah seperti berikut:

The list of the 2000 publications of the Academy are as follows:

No	Penerbitan/Publications
1.	Laporan Tahunan & Penyata Kewangan 2000 2000 Annual Report & Statement of Accounts
2.	Newsletter
3.	A book on "Mosquitoes and mosquito-borne diseases: biology, surveillance, control, personal and public protection measures" edited by F.S.P. Ng and H.S. Yong
4.	Penerbitan khas "Bersama Malaysia Menjulang Hadiah Nobel" terbitan ASM, MOSTE, Novozymes (M) Sdn Bhd

PENERBITAN DALAMAN/INTERNAL PUBLICATIONS

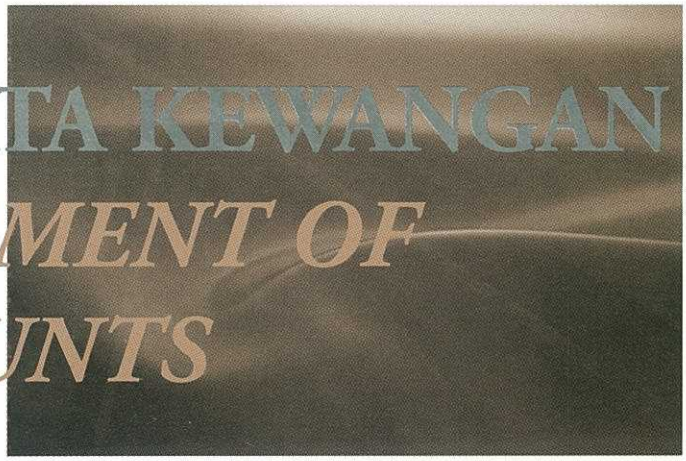
No	Penerbitan/Publications
1.	A conference paper titled "Popularization of Science and Technology in Malaysia"
2.	A Report on 'Enhancing Malaysia's Agri-Food Development Through Science and Technology'
3.	"Sustainable Development: A Vision for Asia: A Prosperous and Greener Asian – a paper presented at the IAP 2000 Conference, Japan
4.	National Science and Technology Policy II: 2001-2010: Building Competitiveness in a Knowledge-driven Economy – A Final Report Submitted to the Ministry of Science, Technology and the Environment
5.	A Report on the Fourth Annual Meeting of ASEAN Academies of Science, Engineering and Technology and Similar National Organizations in ASEAN and ASEAN Dialogue Partners (16 -17 Oct. 2000) Jakarta
6.	"Agro-Biotechnology: the New Frontier in Agriculture" a proposal to the Ministry of Agriculture
7.	A monograph on 'The Malaysian Plantation Sector. Rubber, Oil Palm-The New Millennium Equations' by Academician Tan Sri Dr B.C. Sekhar FASc

Sepanjang tahun Akademi telah menerima 170 buah penerbitan dari Akademi-Akademi dan organisasi nasional dari luar negara

The Academy during the year received 170 publications from sister Academies and similar national organizations overseas.

No	Penerbitan Audio Visual/Audio Visual Publications
1.	Video – "Malaysian in Antarctica: The Adventure Begins".

PENYATA KEWANGAN
STATEMENT OF ACCOUNTS



SIJIL KETUA AUDIT NEGARA MENGENAI AKAUN AKADEMI SAINS MALAYSIA BAGI TAHUN BERAKHIR 31 DISEMBER 2000

SIJIL KETUA AUDIT NEGARA MENGENAI
AKAUN AKADEMI SAINS MALAYSIA
BAGI TAHUN BERAKHIR 31 DISEMBER 2000

Lembaran Imbangan Akademi Sains Malaysia seperti pada 31 Disember 2000, penyata pendapatan dan perbelanjaan serta penyata aliran tunai bagi tahun tersebut telah diperiksa oleh Tetuan S. F. Yap & Co., Akauntan Awam, di bawah arahan saya. Pihak pengurusan Akademi Sains Malaysia bertanggungjawab terhadap penyata kewangan. Tanggungjawab saya adalah untuk memberi pendapat terhadap penyata kewangan tersebut berdasarkan kepada pengauditan yang dijalankan.

2. Pengauditan telah dilaksanakan mengikut Akta Audit 1957 dan berpandukan Piawaian Pengauditan Antarabangsa. Piawaian-piawaian tersebut mengkehendaki pengauditan dirancang dan dilaksanakan untuk mendapat kepastian yang munasabah sama ada penyata kewangan Akademi Sains Malaysia adalah bebas daripada kesilapan atau ketinggalan yang ketara. Pengauditan itu termasuk memeriksa rekod-rekod secara semak uji, menyemak bukti-bukti yang menyokong angka-angka dan memastikan penzahiran yang mencukupi dalam penyata kewangan. Penilaian juga dibuat terhadap prinsip-prinsip perakaunan yang digunakan dan penyampaian penyata kewangan secara keseluruhan.

3. Pada pendapat saya, penyata kewangan ini memberi gambaran yang benar dan saksama terhadap kedudukan kewangan Akademi Sains Malaysia pada 31 Disember 2000, hasil operasi serta aliran tunainya untuk tahun tersebut.

(JOHANNA BINTI NGADIMUN)
b.p. KETUA AUDIT NEGARA

PUTRAJAYA
12 APRIL 2001

AKADEMI SAINS MALAYSIA

Academy Of Sciences Malaysia

PENYATA PRESIDEN DAN BENDAHARI KEHORMAT
AKADEMI SAINS MALAYSIA

Kami, **ACADEMICIAN TAN SRI DATUK Dr OMAR BIN ABDUL RAHMAN F.A Sc** dan **ACADEMICIAN TAN SRI DATUK Dr AUGUSTINE S.H ONG F.A Sc.**, yang merupakan Presiden dan Bendahari Kehormat AKADEMI SAINS MALAYSIA dan juga Ahli-Ahli Majlis, dengan ini menyatakan bahawa, pada pendapat Majlis Akademi, penyata kewangan yang dikemukakan dalam halaman 3 hingga 8 beserta dengan nota-nota di dalamnya adalah disediakan untuk merujuk pandangan yang benar dan saksama berkenaan : -

(a) lembaran imbangan pada 31 Disember 2000 dan akaun pendapatan dan perbelanjaan untuk tahun berakhir itu ; dan

(b) penyata aliran tunai untuk tahun berakhir pada 31 Disember 2000

Bagi pihak Majlis

Tan Sri Datuk Dr Omar bin Abdul Rahman F.A Sc
Presiden
Akademi Sains Malaysia

Bagi pihak Majlis

Tan Sri Datuk Dr Augustine S.H Ong F. A Sc
Bendahari kehormat
Akademi Sains Malaysia

KUALA LUMPUR, MALAYSIA

Tarikh : 02 April 2001

902-4, Jalan Tun Ismail, 50480 Kuala Lumpur.
Tel: 03-2694 9898 Fax: 03-2694 5858
E-mail: samsudin@akademisains.gov.my

AKADEMI SAINS MALAYSIA

Academy Of Sciences Malaysia

PENGAKUAN OLEH PENGARAH EKSEKUTIF KE ATAS PENGURUSAN KEWANGAN AKADEMI SAINS MALAYSIA

Saya, **DATO' Dr SAMSUDIN BIN TUGIMAN**, Pegawai Utama yang bertanggungjawab ke atas pengurusan kewangan AKADEMI SAINS MALAYSIA, dengan ikhlasnya mengakui bahawa penyata kewangan yang dikemukakan dalam halaman 3 hingga 8 beserta dengan nota-nota di - dalamnya, mengikut sebaik-baik pengetahuan dan kepercayaan saya, adalah betul dan saya, membuat ikrar ini dengan sebenarnya mempercayai bahawa ianya itu adalah benar dan atas kehendak-kehendak Akta Akuan Berkanun 1960.

Sebenarnya dan sesungguhnya
diakui oleh penama di atas
di Kuala Lumpur, Malaysia

.....

Pada : 21 MAR 2001

Di hadapan saya,

PESURUHJAYA SUMPAH
W 002
ROBERT LIM HOCK KEE

Lot 2.10, Ting. 2, Bangunan Angkasa Raya
Jalan Ampang, 50450 Kuala Lumpur

902-4, Jalan Tun Ismail, 50480 Kuala Lumpur.
Tel: 03-2694 9898 Fax: 03-2694 5858
E-mail: samsudin@akademisains.gov.my

AKADEMI SAINS MALAYSIA

AKAUN PENDAPATAN DAN PERBELANJAAN
BAGI TAHUN BERAKHIR 31 DISEMBER 2000

	Nota	2000 RM	1999 RM
PENDAPATAN			
Pelbagai penerimaan		29,128	8,380
Faedah dari deposit jangka pendek		697,696	742,344
Kutipan Majlis Makan Malam		60,280	33,580
Sumbangan (Grant)		1,125,844	454,318
		1,912,948	1,238,622
PERBELANJAAN			
Emolumen		365,357	445,298
Perkhidmatan & bekalan		330,900	413,121
Penyelengaraan dan alat kelengkapan pejabat		14,998	11,952
Pemberian dan kenaan bayaran tetap		5,400	4,992
Perbelanjaan perbelanjaan lain		5,424	7,712
Susut nilai harta tetap		142,756	148,095
Majlis makan Malam		64,953	48,382
Perbelanjaan mengendalikan program sains		970,067	734,194
		1,899,855	1,813,746
(Kerugian)/Kelebihan pendapatan		13,093	(575,124)

AKADEMI SAINS MALAYSIA

LEMBARAN IMBANGAN PADA 31 DISEMBER 2000

	Nota	2000 RM	1999 RM
ASET TETAP	2	1,106,148	1,245,394
ASET SEMASA			
Lain-lain penghutang	3	606,818	30,061
Deposit jangka pendek	4	10,643,935	11,326,565
Wang tunai dan baki di bank	5	236,816	43,501
		11,487,569	11,400,127
LIABILITI SEMASA			
Lain-lain sipiutang	6	292,565	357,463
		292,565	357,463
ASET SEMASA BERSIH		11,195,004	11,042,664
		12,301,152	12,288,058
DIBIAYAI OLEH:			
Kumpulan Wang:			
Baki pada 1 Januari		12,288,059	12,863,181
(Kurangan)/Lebihan pendapatan atas perbelanjaan bagi tahun		13,093	(575,124)
		12,301,152	12,288,058
Baki pada 31 Disember		12,301,152	12,288,058

AKADEMI SAINS MALAYSIA

PENYATA ALIRAN TUNAI BAGI
TAHUN BERAKHIR 31 DISEMBER 2000

	Nota	2000 RM	1999 RM
ALIRAN TUNAI DARI AKTIVITI OPERASI			
(Kerugian)/Lebihan pendapatan atas perbelanjaan		13,093.00	(575,124)
Pelarasan:			
Susutnilai		142,756	148,095
Faedah dari deposit jangka pendek		(697,696)	(742,345)
(Kerugian)/kelebihan pendapatan dari operasi sebelum perubahan modal kerja		(541,847)	(1,169,374)
(Lebihan)/kurangan siberhutang		(576,757)	133,988
Lebihan sipiutang		(64,897)	230,818
Tunai bersih (ke)/dari aktiviti operasi		**(1,183,501)**	**(804,568)**
ALIRAN TUNAI DARI AKTIVITI PELABURAN			
Pembelian aset tetap		(3,510)	0.00
Faedah diterima		697,696	742,345.00
Tunai bersih (ke)/dari aktiviti pelaburan		**694,186**	**742,345**
(PENGURANGAN)/PERTAMBAHAN BERSIH TUNAI DAN KESETARAAN TUNAI		(489,315)	(62,223.00)
TUNAI DAN KESETARAAN TUNAI PADA AWAL TAHUN		11,370,066	11,432,289.00
TUNAI DAN KESETARAAN TUNAI PADA AKHIR TAHUN	7	10,880,751	11,370,066

AKADEMI SAINS MALAYSIA

NOTA-NOTA KEPADA AKAUN BERAKHIR PADA 31 DISEMBER 2000

1 DASAR-DASAR PERAKAUNAN

(a) Asas Perakaunan

Akaun telah disediakan mengikut konvension kos sejarah dan mengikut piawaian perakaunan yang diluluskan.

(b) Aset tetap dan susutnilai

Aset tetap dinyatakan pada kos setelah ditolak susutnilai terkumpul.

Susutnilai bagi aset tetap dikira berasaskan kaedah garis lurus di atas kos di sepanjang tempoh hayat kegunaan aset-aset tersebut pada kadar yang berikut:-

Perkakas pejabat & komputer	20%
Komputer	20%
Kenderaan bermotor	20%
Pengubahsuaian	2%

2 ASET TETAP

	Perkakas pejabat	Komputer	Kenderaan bermotor	Pengubah-suaian	2000	1999
	RM	RM	RM	RM	RM	RM
KOS						
Pada 1 Januari	82,398	242,632	304,604	1,108,398	1,738,032	1,738,032
Tambahan	0	0	0	3,510	3,510	0
Pada 31 Disember	82,398	242,632	304,604	1,111,908	1,741,542	1,738,032
SUSUTNILAI TERKUMPUL						
Pada 1 Januari	51,986	146,181	222,425	72,046	492,638	344,543
Dikenakan	16,391	48,527	55,600	22,238	142,756	148,095
Pada 31 Disember	68,377	194,708	278,025	94,284	635,394	492,638
NILAI BUKU BERSIH						
31.12.2000	14,021	47,924	26,579	1,017,624	1,106,148	-
31.12.1999	30,412	96,451	82,179	1,036,352	- -	1,245,394

3 LAIN-LAIN SIBERHUTANG

	2000 RM	1999 RM
Pendahuluan	5,448	5,849.00
Faedah Terakru	67,341	24,212.00
Penghutang	2,400	0.00
Pendapatan Terakru	531,629	0.00
	606,818	30,061

4 DEPOSIT JANGKA PENDEK

	2000 RM	1999 RM
Deposit disimpan dalam institusi kewangan berlesen	10,643,935	11,326,565

5 WANG TUNAI DAN BAKI DI BANK

	2000 RM	1999 RM
Bank	234,816	41,501.00
Tunai Runcit	2,000	2,000.00
	236,816	43,501

6 LAIN -LAIN SIPIUTANG

	2000 RM	1999 RM
Kumpulan Wang Simpanan Pekerja	7,918	10,856
Jabatan Hasil Dalam Negeri	0	2,377
Gaji	0	0
Pejabat Pencen	0	428
Cek yang belum ditunaikan	2,498	2,499
Sipiutang Am	255,644	317,698
S & T Polisi (Pra Bayar)	0	17,100
Endowment Fund	20,000	0
Peruntukan Perkhid. Audit & Akaun	6,505	6,505
	292,565	357,462

7 TUNAI DAN KESETARAAN TUNAI

Tunai dan kesetaraan tunai di wakili oleh item-item yang berikut:-

	2000 RM	1999 RM
Deposit jangka pendek	10,643,935	11,326,565
Wang tunai dan baki di bank	236,816	43,501
	10,880,751	11,370,066