



**Under the patronage of Prime Minister Abdullah Badawi:
Malaysia hosts 14th IAS Conference on
*Science, Technology and Innovation for Socioeconomic Development
of OIC-Member Countries: Towards Vision 1441***

**IAS RELAUNCHED AS
ISLAMIC WORLD ACADEMY OF SCIENCES**



Under the patronage of YAB Dato' Seri Dr Abdullah Ahmad Badawi, Prime Minister of Malaysia, the Islamic World Academy of Sciences convened its fourteenth science conference in Kuala Lumpur, Malaysia, during 21-24 March 2005. The conference addressed the theme of *Science, Technology and Innovation for Socioeconomic Development of OIC-Member Countries: Towards Vision 1441*.

Held at the Crowne Plaza Mutiara Hotel, the conference was an open scientific activity in which over 250 participants representing over 25 countries participated. Alongside the conference, the First Meeting of the OIC Task Force for Vision 1441, and a Showcase (exhibition) of Innovation and Technology products were organised.

The conference was organised and sponsored by the following organisations:

- Islamic World Academy of Sciences (IAS), Amman, Jordan;
- Ministry of Science and Technology and Innovation (MOSTI), Putrajaya, Malaysia;

- Academy of Sciences Malaysia (ASM), Kuala Lumpur, Malaysia;
- Al-Bukhary Foundation, Kuala Lumpur, Malaysia;
- Perdana Leadership Foundation, Malaysia;
- Islamic Development Bank (IDB), Jeddah, Saudi Arabia;
- OIC Ministerial Committee on Scientific and Technological Co-operation (COMSTECH), Islamabad, Pakistan;
- Opec Fund for International Development, Vienna, Austria;
- Islamic Organisation for Medical Sciences, Kuwait City, Kuwait;
- Pakistan Academy of Sciences, Islamabad, Pakistan; and
- The Sasakawa Peace Foundation, Tokyo, Japan;

The main aim of the 14th Science Conference of the IAS was to engender acquiescence among the political leadership of the OIC of the inextricable link between advancement in S&T and socio-economic development, and draw the attention of the OIC science community to, and promote, Vision 1441.

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IAS receives Jordan grant

The Islamic World Academy of Sciences has recently received the annual grant of the Hashemite Kingdom of Jordan for 2005.

The grant which is allocated to cover the local expenses of the IAS Amman Secretariat, has been provided by Jordan annually ever since the Academy was founded in 1986, and reflects the commitment that His Majesty King Abdullah II (pictured above) and the government of Jordan have to supporting the Organisation of the Islamic Conference (OIC), and its various off-shoot organisations. This support has often been re-iterated at OIC meetings.

It is worth noting that Jordan is one of a number of countries that actually includes international financial contributions in its national budget, thus facilitating the release of grants to recipients once the budget is approved by parliament.

IAS Director General has communicated his thanks to H E Farouk Kasrawi, Minister of Foreign Affairs of Jordan, who instructed the release of the grant.

IAS General Assembly convenes at KL Academy relaunched as **ISLAMIC WORLD ACADEMY OF SCIENCES (IAS)**

Alongside the 14th IAS Science Conference, and under the chairmanship of Prof. Abdel Salam Majali FIAS, IAS President, the General Assembly of the Islamic Academy of Sciences held its fifteenth regular meeting at the Crowne Plaza Hotel, Kuala Lumpur, Malaysia, on 23 March 2005. The meeting was attended by thirty-six Fellows of the IAS as well as IAS Director General.

The General Assembly after approving the minutes of the previous meeting took note of the very detailed report presented by the IAS Director General on the various activities implemented since the previous meeting. It went on to discuss an extensive agenda that included a review of financial statements, the status of the Medical Journal of the Academy, IAS programme, as well as a number of organizational matters related to the IAS.

The DG talked in brief about the finances of the IAS in 2003, 2004 and 2005 followed by Prof. Adnan Badran, IAS Treasurer, who presented a detailed run-down of the financial statements of the IAS as they stood at 31 December 2004.

The DG also briefed the Assembly on the standing fund raising/visibility campaign that was started by the Secretariat and IAS President.

IAS President and DG informed the House of the various contacts initiated with the Chinese Academy of Sciences and the Malaysian Academy of Sciences during 2003. The DG mentioned IAS's involvement in the launch of the Network of Academies of Sciences of Islamic Countries (NASIC), in Islamabad (Pakistan), during March 2004.

An extended debate followed that touched on several issues related to the current and future direction and activities of the IAS including the arrangements made for the 14th IAS Conference being held at Kuala Lumpur.

A special presentation was made by Prof. Naci Bor on the state of affairs of the Medical Journal of the IAS, which was progressing well and attracting a wider readership.

The General Assembly of the IAS concluded with the adoption of the proposal of the IAS Council to change the name of the Islamic Academy of Sciences to "ISLAMIC WORLD ACADEMY OF SCIENCES."



IAS Council holds its thirtieth Meeting in Kuala Lumpur

The 30th Meeting of the IAS Council was held under the chairmanship of Dr A S Majali, IAS President on Sunday 22 March 2005.

In his report to the Council, the DG talked about the various activities that the IAS has been involved in including organising the Fourteenth Conference and maintaining the IAS's Medical Journal. The DG made a mention of a number of activities that the IAS has been involved in. These included possible joint activities with the Network of Academies of Sciences of Islamic Countries (NASIC), the prestigious Royal Swedish Academy of Sciences, the US National Academy of Sciences, and the Palestine Academy of Science and Technology (PALAST).

He also mentioned that the IAS and the Inter-Islamic Network on Water Resources have jointly hosted an outreach seminar in Amman during December 2004, under the patronage of HRH Prince El-Hassan, Founding Patron of the IAS.

The Council noted with satisfaction the fact that Prof. Zohra Benlakhdar FIAS (Tunisia), thanks to a nomination from the IAS, has been awarded the L'Oréal Women in Science Prize awarded by the Unesco.

The Council extensively discussed the issue of changing the name of the Academy and the impact that that would have on the role of the IAS as the

'Science Advisor' of OIC countries, ultimately deciding to approve to change the name of the Academy to 'Islamic World Academy of Sciences.'

The Council discussed the question of finances in detail, especially ways and means of increasing the income of the Academy to enable it to undertake more activities.

The Council also reviewed the IAS Fellowship Elections procedure with some Members expressing the opinion that the number of Fellows should be restricted until such time when more funds become available.

The Council discussed the possibility of holding the conference of the IAS every two years instead of annually.

The Council supported Prof. Naci Bor's comment that the IAS must not go backward, or try to reduce its Fellows or the activities it undertakes. Prof. Bor had earlier suggested that research and research centres have always played a positive role in civilisational improvement or development, and lead to political development.

The Council reviewed a number of ideas on how more funds could be generated for the IAS, and also discussed the issue of launching some further local chapters or regional offices of the IAS.

The Council concluded its meeting by expressing its appreciation to Malaysia and Dr Mahathir Mohammad for hosting the 14th Conference of the IAS in Kuala Lumpur.

Badran appointed PM: Fellow of the Islamic World Academy of Sciences becomes Jordan's Prime Minister

After weeks-long anticipation of a government reshuffle, a new Jordanian cabinet under the premiership of Dr Adnan Badran was formed and sworn in before His Majesty King Abdullah II in April 2005. Dr Badran was instructed by His Majesty to accelerate the pace of reform and institutionalise the reform process.

Prof. Adnan Badran FIAS is an elected Fellow of the Islamic World Academy of Sciences (1989). He is very well known to all the Fellows of the IAS. Before being picked as PM he participated in the recently concluded 14th Conference of the IAS held at Kuala Lumpur, Malaysia, 21-24 March 2005.

Formerly, Prof. Badran has served as Minister of Agriculture and Minister of Education as well as Secretary General of



Jordan's Higher Council for Science and Technology (HCST). Prof. Badran is the former Deputy Director General of the United Nations Educational, Scientific and Cultural Organization (UNESCO)

(1993-1998), and Assistant Director General for Science, UNESCO, Paris, France (1990).

Prof. Badran is a past President of Yarmouk University (1976-1986), Irbid, Jordan. He obtained his PhD from Michigan State University (1963).

He is the author/editor of more than 18 books and 90 research papers in the field of Biology, Economic Development, Education and International Co-operation.

Prof. Adnan Badran was elected Treasurer (Council Member) of the Islamic Academy of Sciences in 1999, and 2003. He is the Secretary General and Fellow of the Third World Academy of Sciences (TWAS), and Member of the American Association for the Advancement of Sciences (AAAS) since 1993.

EDITORIAL LETTER

Sciences Academies: In search of a role!

Science and scientific activities are, in many countries, not looked upon as priority areas. Neither are they considered a platform for sustained socioeconomic development. Science is viewed as an expensive pursuit indulged in by either a few academics or individuals. In general, science has been only really prized by some political and community leaders. It has some way to go before becoming part of the public's priority list. People, it seems, are indifferent to the fact that had it not been for science and technology, our lives would not be as they are today. Indeed science still is not considered to be a major component of the knowledge base of any country as with history, literature, the arts or music.

Among the international scientific elite and those involved in North-South and South-South scientific and technological collaboration, science and science-based terminologies have become part of their thinking and science for sustainable development has become a buzzword. To the pillars of the science and technology superstructure of any country; scientific organizations, universities, academies of sciences, ministries of science and technology, the true value of scientific advancement has time and again more than manifested itself. People realise that the knowledge that science can generate is a qualification for a sustainable and bright future.

Of such pillars, academies of sciences stand out as organizations with multifaceted roles. Not only as propagandists for science and technology among the political decision making circles, but also as decision support/analysis units, especially on matters related to science and technology, education, health and the environment. Perhaps if we were to unglamorously or straightforwardly express the mission of an academy of sciences in terms of bridging the divide between the fans of science and its inimitable foes, we will be hitting the right note.

What is more striking is that political leaderships in several developing countries are ignorant of the role or the possible mandate of an academy of sciences, as the science promoter in/for society. This is unfortunate as they are the very people whose support is required to launch, nurture and provide political patronage as well as material support to national academies of sciences. Indeed for a national academy of sciences to be successful, it has to have the political support and patronage of the head of state as well as the financial aid of the government. Ideally, such a relationship would help the academy of sciences maintain a certain level of independence and provide objective and unbiased advice to the government.

In Arab/Islamic culture, the concept of an academy of sciences is probably ten centuries old, and may be traced back to the era of the Abbasids. That witnessed the birth of Al-Ghazali's Nizamiyah Academy at Baghdad in the 11th Century, where scientific matters relating to the welfare of the Ummah were debated and discussed. That is some four centuries or so before the founding of the first European academy of sciences, Accademia Nazionale dei Lincei, in Italy.

Today, there exists around 90 national, regional, international academies of sciences that are active in the world. Most are prestigious bodies of international standing. Some are new but developing and finding their way fast despite numerous obstacles. Some science academies take on the responsibility of catering for a region or a group of countries such the Islamic World Academy of Sciences (IAS), and the African Academy of Sciences (AAS).

To fully realise their potential, academies of sciences must get their message across to politicians, academics, and the public at large. Their message needs to get across to the business community too, for it can provide support to their activities. By patiently cultivating a sense of appreciation of science would an academy of sciences be able to fulfil its mandate.

Moneef R. Zou'bi, Director General, IAS

2005 MALAYSIA – ISLAMIC WORLD ACADEMY OF SCIENCES (IAS) KUALA LUMPUR DECLARATION

on

*Science, Technology and Innovation for Socioeconomic Development of OIC–Member Countries:
Towards Vision 1441*

adopted at Kuala Lumpur, Malaysia

on

14 Safar 1426
24 March 2005

PREAMBLE

WHEREAS the quest for knowledge is a pillar of the Islamic Code of Belief, and knowledge and its pursuit have assumed augmented importance in an increasingly knowledge driven world economy;

WHEREAS realising prosperity and socioeconomic advancement for people is at the core of the Islamic governance philosophy;

WHEREAS the doctrines of Islam explicitly emphasize that human-beings' relation to nature should be one of stewardship and not of unrestricted mastery, and as Islam promotes a balance between all living creatures and their life-sustaining environment;

WHEREAS Organisation of Islamic Conference (OIC) and developing countries vary in their Science, Technology and Innovation (STI) outlooks, as some have developed a vision that interlinks their future to their STI development, and others due, among other considerations, the lack of political will, have not given due priority to this issue;

WHEREAS for all, including countries of the OIC, concepts such as sustainability and analytical parameters such as STI indicators, provide conceptual frameworks for linking Research and Development (R&D) to societal outcomes, thus invariably leading towards the implementation of an R&D policy that addresses the complex interconnections among technological advances and societal responses and needs;

AND WHEREAS Vision 1441 declares that 'OIC member states are committed to become a community that values knowledge and is competent in utilizing and advancing S&T to enhance the socio-economic well-being of the *Ummah*,'



THE PARTICIPANTS IN THE MALAYSIA – ISLAMIC WORLD ACADEMY OF SCIENCES (IAS) 2005 SCIENCE CONFERENCE;

(a) **CONVINCED** that science is a major asset of humanity, an asset that in the 21st century offers new opportunities and faces new challenges; challenges related to knowledge and socio-economic advancement, wealth creation, the prevalence of sustainable development, prevention/ management of natural disaster; as well as the promotion of justice and tolerance;

(b) **CONSCIOUS** of the fact that S&T is the primary force behind the advancement of human civilisation, and that productivity gains and achievements of humankind have been derived chiefly from innovation based on scientific exploration as well as technological and engineering innovations, and moreover extensive applications of S&T in the social life of humankind;

(c) **COGNIZANT** of the fact that the international science/academic community must lead the way in bridging prevailing civilisational, social, economic, and even political divides between the peoples of the world, and that the OIC science

community must be an instigator of such a process,

MOREOVER,

(i) **BEING CONCERNED** by the indifference shown by executive decision-makers in many OIC countries to the role of STI in realising national aspirations and well-being;

(ii) **BEING CONCERNED** by the fact that the majority of OIC-Countries still lack comprehensive STI policies, and strategies emanating therefrom, the objective of which is to realise some level of national prosperity, security and national self-fulfilment;

(iii) **NOTING WITH CONCERN** the limited number of centres of excellence and the general deficiency of S&T systems in many OIC member countries, especially those centres that are involved in specific disciplines that especially promote international collaboration that taps Muslim expertise worldwide;

(iv) **NOTING WITH CONCERN** the fact that very few OIC universities are ranked among the World's Top 500 universities and the lack of STI-educational programmes at all levels of

education in most OIC countries, a reflection of the general state of backwardness in which the *Ummah* lives,

NOW THEREFORE,

- (a) **PURSUANT** to the Kuala Lumpur Declaration on Science and Technology for Socioeconomic Well-Being of the *Ummah*, and VISION 1441 originating from it, adopted by the 10th Session of the OIC Summit, held in Putrajaya, Malaysia, from 10-18 October 2003; and
- (b) **COMMITTED** to work towards the promotion of the development of science and technology by increasing the allocation of resources to that end, developing appropriate institutional frameworks and promoting technology through advanced and quality education;
- (c) **AFFIRM AND SEEK** to strengthen the role of the OIC and its related agencies in mainstreaming the positive benefits of science and technology for OIC and other developing countries,

MOREOVER,

- (i) **APPRECIATING** that at the dawn of the 21st century, the world of science and higher education is marked by a complex struggle between continuity and change, and the rise of new challenges, opportunities and new modes of 'learning to learn,' and that the idea of reform, innovation, transformation and evolution rather than revolution, indicating that higher education and science are in ferment in creating, constructing and ultimately benefiting from knowledge;
- (ii) **NOTING** that in responding to the growing demands of the market-forces of the Knowledge-based or K-economy, a fresh-look is needed to re-examine the delivery of higher education in OIC and developing countries in terms of quality and relevance, to re-examine scientific development and acquisition capacity as well as technology application in the productive sectors of the economy;
- (iii) **DECLARING** that the Asian Tsunami was the greatest humanitarian disaster in recent world history, which is even more tragic because many agencies have pointed out in the past that the international community had failed to construct a

viable method for dealing effectively with the humanitarian dimensions of disasters,

THE SCIENTISTS, TECHNOLOGISTS AND POLICY-MAKERS PRESENT AT THE FOURTEENTH IAS CONFERENCE HELD AT KUALA LUMPUR, MALAYSIA, DURING 21-24 MARCH 2005, HEREBY ADOPT THE MALAYSIA - IAS 2005 KUALA LUMPUR DECLARATION AS A PLATFORM FOR THE PROMOTION OF SCIENCE AND TECHNOLOGY AMONG THE MEMBER STATES OF THE ORGANISATION OF THE ISLAMIC CONFERENCE (OIC) COUNTRIES, THUS:

- (1) **RECOGNIZING** the significant obstacles to science and technology in OIC-Countries, including, *inter alia*, lack or inadequacy of up-to-date STI Policies, lack or inadequacy of resources, infrastructure and institutions, gender imbalance in science and technology, lack of trained personnel, prohibitive costs of acquiring knowledge and technology, and barriers to the transfer of knowledge, personnel and technologies from developed to developing countries. Tangible steps to address these obstacles and facilitate the transfer of resources to enhance domestic capacity building in developing economies must be instituted;
- (2) **EMPHASIZING** with deep concern the existing and deepening disparities between the developed and developing world in their capacity to produce scientific and technological knowledge in support of social and economic development;
- (3) **EXPRESSING** profound concern at the persistence and prevalence of the scourge of poverty on a global scale and also at the inadequate, intangible results of existing poverty alleviation and eradication strategies, and cognizant of the pernicious impact of poverty on scientific and technological progress and social and economic development of nations. The elimination of poverty must be a strategic objective and priority of governments and scientific communities;
- (4) **CONSIDERING** that more attention and new and additional resources should be devoted by the international community to developing countries' concerns, and

uses of scientific knowledge appropriate to, and to the direct benefit of, the developing world, and that greater recognition of the special needs of developing countries in science and technology, and greater understanding, consideration and cooperation among Member States of the OIC and other countries to satisfy different needs and priorities of developing countries in respect of new technologies, is required;

- (5) **RECOGNIZING** that although market oriented research would be accorded attention, basic research must not be sidelined;
- (6) **EMPHASIZING** the key roles played by contemporary applied and basic sciences education for gaining mastery in the transformational technologies of information technology, biotechnology, and nanotechnology,

THEREFORE,

- (1) **REAFFIRM** their commitment to the implementation of specific actions at the national and international levels including, *inter alia*, commitment at the highest level to S&T; sizeable increase in R&D expenditure, and the promotion of the central role of the university as originator of scientific output. New approaches such as the 'Triple Helix' approach are necessary to enhance greater linkage among government, university and industry in order to share resources and benefits;
- (2) **REAFFIRM** their support to scientific and technological cooperation among developing countries and reiterate their commitment to cooperation among the OIC-Member States. They call for the exchange of scientific experiences and of technologies with a view to intensifying cooperation and delivering real benefits among developing countries, especially involving countries that have developed significant expertise in S&T policy development, S&T infrastructure, biotechnology, and information technology;
- (3) **CALL UPON** OIC-Member Countries to ensure that the pursuit of science must not focus on the attainment of knowledge but also to realise socio-economic goals;
- (4) **CALL UPON** member states of the WTO to work towards the

recognition that the intellectual property system should respond to the development needs of developing countries and become more supportive of their science and technological objectives;

- (5) **INVITE** the Chairman of the OIC and the OIC Secretary General, as required to initiate or undertake consultations for the implementation of the following decisions, and to report on the results to the forthcoming Meeting of the Ministers of Foreign Affairs of OIC-Countries (ICFM):
 - a) *Establishment of a Trust Fund for the promotion and exchange of knowledge and technology in OIC-Member Countries. To this end, governments, the private sector, foundations and other organizations are encouraged to provide seed money for the Fund;*
 - b) *Encourage the establishment of a consortium comprising representatives from the governments, the private sector and other relevant organizations to promote joint ventures in the South in the field of science and technology; and*
 - c) *Establish an inventory of publications and documents produced by OIC STI agencies since 1981 from which information and past experiences and programmes could be accessed and utilised to speed national activities aimed at realising Vision 1441;*
- (6) **CALL** for an effective implementation of this Declaration and invite the Chairman of the OIC and the concerned agencies to accelerate the necessary practical modalities for the follow-up of the 2003 Kuala Lumpur Conference outcome in close coordination with the relevant OIC bodies and agencies, and through:
 - a) *Setting up of three virtual working groups on ICT, Biotechnology and Nanotechnology, with a view to implementing the provisions of IAS Declarations and relevant recommendations of Vision 1441 related to these transformational technologies;*
 - b) *Development of an Internet-based communication mechanism among the OIC Vision 1441 Task Force resource persons and institutions to reduce costs and to enhance the work of the Task Force;*

- c) *Accelerate the provision of core ICT infrastructure, increased access and reduced costs nationally and regionally, and increase connectivity and physical access to ICT infrastructure, including the development and use of low cost hardware devices and software, especially open source;*
- d) *Accelerate and intensify the provision of content and services for the public good, including e-government, health, education, agriculture, science and technology, culture and the arts, and encourage and promote the publication of quality research material of OIC scientists on the Internet;*
- e) *Strengthen and enlarge programmes in developing countries for human resources, skills and knowledge in ICT;*
- f) *Work towards a harmonized OIC position for and active engagement in phase II of the World Summit on Information Society; which will be held in Tunis in 2005,*

AND CALL UPON the leaders and decision-makers of Islamic countries to:

- (i) **MAINTAIN** through the OIC a central repository of information relating to all phases of disaster management: prevention, preparedness relief and rehabilitation. Such a body should work with its national counter-parts. Governments should have national disaster plans. A mechanism to meet at the Islamic Council of Foreign Ministers (ICFM) as and when such an event strikes to provide and co-ordinate relief efforts must be instituted;
- (ii) **ALLOCATE** more resources to science education, with a view to building up a scientific and technological human resource base capable of adapting and developing new technologies;
- (iii) **ADOPT** an integrated approach to scientific research and development and technology utilisation and establish the necessary technology management processes for the purpose,

AND FURTHER CALL UPON the relevant national OIC agencies and other OIC organisations to:

- (a) **STRENGTHEN** specialized R&D institutions, the output of which can eventually be smoothly transformed

into marketable technological products;

- (b) **INTRODUCE** appropriate legislation and incentives, including tax relief and customs exemptions, to promote the development of market oriented technology products;
- (c) **PROMOTE** and enhance inborn curiosity and inquisitiveness among the young through developing a "creativity movement" at national levels to create conducive environment at home, at school and universities, and to develop OIC-wide creativity programmes;
- (d) **ENCOURAGE** creative approaches to R&D and R&D management, and to allow cross fertilization of ideas and develop programmes to train competent R&D managers, as well as create mechanisms for inter-institution collaboration nationally and OIC-wide;
- (e) **DEVELOP** financial, business, and entrepreneurial skills through education and hands-on experience through in-school and after-school programmes, and through developing specialised post-school business skills programmes;
- (f) **ESTABLISH** special young entrepreneur training programmes with the help, support, and involvement of the private sector and the international entrepreneur community;
- (g) **CREATE** the appropriate environment and financial and regulatory frameworks for development of new business ventures and establish business incubators appropriate for the need of the country;
- (h) **ESTABLISH** early financing mechanism to support entrepreneurs and promote development of venture capital companies and technology banks;
- (i) **ENCOURAGE** and support the launch and support of OIC-wide funds for innovation-based industrial ventures;
- (j) **DEVELOP** databases of human resources involved in innovation and its appropriate applications in OIC countries to facilitate appraisal of national strengths and weaknesses,

FURTHERMORE,

- (1) **FACILITATE** opportunities for scientists of the countries of the

South in terms of under-graduate, post-graduate and post-doctorate studies in the North and other parts of the South as a means of building up the critical mass of scientists and technologists in poorer countries;

- (2) **IDENTIFY AND INTERACT** WITH champions of science at the institutional, national, regional, OIC and international levels, to promote the cause of science for development;
- (3) **ESTABLISH** national academies of sciences in their countries, or where such independent entities exist strengthen them, so that they may act as independent advisory bodies to their respective governments, and strengthen academic and scientific links with international science academies, and other scientific bodies worldwide,

MOREOVER, THE 2005 MALAYSIA - IAS SCIENCE CONFERENCE:

SUPPORTS the implementation of the recommendations and action plan of Vision 1441, and urges all OIC member countries to contribute generously to the newly established OIC Science and Technology Fund, and commends highly the efforts of Pakistan and the OIC Standing Committee on Scientific and Technological Co-operation (COMSTECH) in launching this timely initiative; and

EXTENDS its appreciation to Malaysia for hosting the conference; to the Ministry of Science, Technology and Innovation Malaysia; Academy Science Malaysia, for undertaking local arrangements; Al-Bukhary Foundation and Perdana Leadership Foundation for the local sponsorship of the event; the Islamic Development Bank, COMSTECH, Pakistan Academy of Sciences, and Sasakawa Peace Foundation, Japan, for generously financing this international event.

The 14th IAS Science Conference in picture



(Continued from page 1)

Kuala Lumpur hosts IAS Conference 2005

The main objectives of the 14th IAS Conference were:

- (1) To discuss the importance of S&T and its link to socioeconomic development and in particular to promote Vision 1441 among OIC member countries;
- (2) To discuss way and means of achieving the targets of Vision 1441 in OIC member countries;
- (3) To evolve into lively intellectual exercise and provide an opportunity for debate and lasting interaction among the scientists/academics attending;
- (4) To be an open forum that brings together those working in policy development, academia, or involved in the political decision-making level, as well as entrepreneurs; and
- (5) To act as an S&T platform and in the process appraising a number of facets of OIC member countries' S&T sectors.

In addition to a memorable invited address entitled *The Islamic World in the Twenty First Century: A Roadmap for Development*, by the former Prime Minister of Malaysia Tun Dr Mahathir Mohamad Hon. FIAS; Prof. Atta-ur-Rahman FIAS, Co-ordinator General COMSTECH presented another invited lecture that included his thoughts on *Science and Technology for Development of OIC Member Countries*. Datuk Dr Salleh Mohd Nor, Vice President, Academy of Sciences Malaysia, spoke about *Vision 1441* in a third invited lecture that aimed to introduce the concept to the conference participants.

Science, Technology and Innovation Development in Malaysia: Present Scenario and Future Prospects, was the title of the lecture given by YB Dato' Sri Dr Jamaluddin Jarjis, the Malaysian Minister of Science, Technology and Innovation; while Prof. Svante Lindqvist, Director, Nobel Museum, presented an exciting keynote on *The Dual Nature of Creativity: Individuals and Milieus*, in which he talked about the varied backgrounds of Nobel Laureates and gave some hints on the common characteristics that led to their success, the characteristics of creative individuals and the nature of creative milieus.

A lot of interest was shown in the lecture given by the President of the

Korean Academy of Sciences and Technology, Prof. KunMo Chung, on *Science, Technology and Innovation: Korea as a Role Model*. Dr Robert Hamilton of the US National Academy of Sciences, on the other hand, gave an important presentation on *Science-based Decision Making for Natural Disaster Management/Earthquake Mitigation*.

Two specialised sessions within the conference addressed the subjects of *Innovation*, and *Ways and Means to Realize Vision 1441*. The first, which included presentations by successful world-class entrepreneurs, concluded with the formulation of the *OIC Innovation Agenda for OIC-Member Countries*; while the second in which a number of representatives of academies of sciences took part, addressed a number of possible courses of action that need to be adopted by OIC-Countries in their quest to achieve the S&T parameters set in *Vision 1441*.

At the conclusion of the four-day conference, which also included a number of specialised meetings and site visits, the IAS adopted the Malaysia-IAS 2005 Kuala Lumpur Declaration on *Science, Technology and Innovation for Socio-economic Development of OIC-Member Countries: Towards Vision 1441*.

The declaration stressed that the quest for knowledge is a pillar of the Islamic Code of Belief, and that knowledge and its pursuit have assumed augmented importance in an increasingly knowledge driven world economy. It reiterated its support for *Vision 1441*, and its constituent elements, and proposed a number of strategies to help OIC-Countries achieve the various targets outlined in the vision.

The declaration highlighted the indifference shown by executive decision-makers in many OIC countries to the role of STI in realising national aspirations and well-being, and the fact that the majority of OIC-Countries lacked comprehensive STI policies, and strategies emanating therefrom, that aimed at achieving some level of national prosperity, security and national self-fulfilment.

The significant obstacles to science and technology in OIC-Countries were highlighted in the declaration, including: lack or inadequacy of up-to-date STI policies; lack or inadequacy of resources, infrastructure and institutions; gender imbalance in science and technology; and steps to facilitate the transfer of resources to enhance domestic capacity building in developing economies were called for.

The declaration expressed concern at the fact that very few universities in OIC-Member Countries were among the world's top 500 universities and urged all related bodies to address this important impediment.

In responding to the growing demands of the K-economy, the declaration stated that a fresh-look is needed to re-examine higher education in OIC and developing countries in terms of quality and relevance to re-examine scientific development and acquisition capacity as well as technology application in the productive sectors of the economy.

The declaration reaffirmed its support to scientific and technological cooperation among developing countries and called for the exchange of scientific experiences with a view to delivering real benefits, especially involving countries that have developed significant expertise in S&T policy development, S&T infrastructure, biotechnology, and information technology.

The prevalence of the scourge of poverty on a global scale and the pernicious impact of poverty on scientific and technological progress and social and economic development of nations were highlighted in the declaration, which suggested that the elimination of poverty must be a strategic objective of governments and scientific communities.

The declaration proposed a number of strategies to invigorate the innovation climate in OIC-Member countries.

Moreover, the declaration described the Asian Tsunami as the greatest humanitarian disaster in recent world history, which was even more catastrophic because many agencies had pointed out in the past that the international community had failed to construct a viable method for dealing effectively with the humanitarian dimensions of disasters. It recommended that natural disaster monitoring mechanisms are instituted so that OIC-Countries become prepared to manage such crises whenever they occur, and the subsequent resulting human suffering.

In its operative component, the declaration invited the Chairman of the OIC and the OIC Secretary General, to initiate consultations for the establishment of a Trust Fund for the promotion and exchange of knowledge and technology in OIC-Member Countries, and the establishment of an inventory of publications and documents produced by OIC STI agencies since 1981 from which

information and past experiences and programmes could be accessed and utilised to speed national activities aimed at realising *Vision 1441*. It also requested the Chairman of the OIC to accelerate the necessary practical modalities for the follow-up of the 2003 Kuala Lumpur Conference outcomes.

The declaration applauded the efforts of and the OIC Standing Committee on Scientific and Technological Co-operation (COMSTECH) in launching the OIC Science and Technology Fund, and expressed its appreciation of Malaysia and the various Malaysian and international agencies for organising and generously financing the conference.

As part of the follow-up action to the conference, the Academy will circulate the IAS 2005 Kuala Lumpur Declaration to concerned individuals and relevant agencies throughout OIC and developing countries, so that measures are taken to put into action the ideas proposed at the conference.

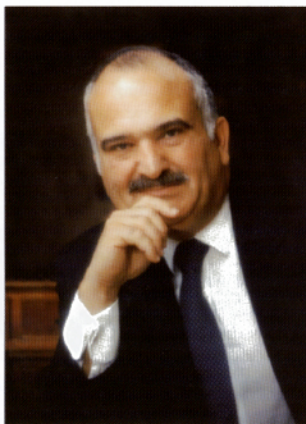
The Academy will also publish the complete proceedings of the conference in a quality volume that will be distributed internationally.

Through IAS Fellows, personal contact and correspondence, the IAS will promote the concepts promulgated at the conference among the decision making circles of the Islamic world, and will provide whatever help it can to get the various recommendations implemented.

**Message of
HRH Prince
Al-Hassan Ibn Talal
Founding Patron
Islamic World Academy of
Sciences**

As is customary at conferences of the Islamic World Academy of Sciences, His Royal Highness Prince Al-Hassan Ibn Talal, Founding Patron of the IAS, sent a message to the conference. HRH's message, the full text is given below, was read on this occasion by Prof. Adnan Badran FIAS.

"Last October the Club of Rome met in Helsinki under the theme of 'Limits to Ignorance: The Challenge of Informed Humanity.' Dennis Meadows presented the 30-year update of *Limits to Growth*. The *Limits to Growth*, which was a report to the Club of Rome in 1972, a world model built specifically to investigate five major trends of global concern – accelerating industrialisation, rapid



population growth, widespread malnutrition, depletion of non-renewable resources and a deteriorating environment – the conclusions were:

- (i) If present growth trends in world population, industrialisation, pollution, food production and resource depletion continue unchanged, the limits to growth on this planet will be reached within the next hundred years with an uncontrollable decline in both population and industrial capacity;
- (ii) It is possible to alter these growth trends and establish a sustainable condition of ecological and economic stability far into the future. Global equilibrium would see the basic material needs of each person on earth satisfied with an equal opportunity to realise human potential.

Thirty years later the update says, "...an enormous shift has occurred in our understanding of the global environment over the past three decades! Before the original report, there was little recognition that society could destroy important global systems. Today there is little hope that we can avoid causing profound and permanent damage to natural processes, such as climate regulation and regeneration of marine fisheries.

In his paper, Sustainable Development as the Major Challenge for the XXI Century, Professor Kukliński of Austria, looked at three perceptions: the global perspective covering long-term development processes incorporating the totality of global space with differentiation in the scale and velocity of sustainable development; the secular perspective covering the decisions of the present generation so as not to destroy the

development chances of the next generation; the holistic perspective covering a comprehensive approach to sustainable development.

The advances in *biotechnology*, *nanotechnology* and *ICT* are 'electrifying' society – cutting across cultural, social and economic barriers. As in the statement of the Club of Rome to the World Summit on the Information Society, Geneva 2003, the emerging knowledge society poses new challenges: ensuring rights of access to and creation of knowledge; re-defining and protecting the 'commons', especially related to knowledge and Intellectual Property Rights; assuring privacy; addressing the coherence and simultaneity of infrastructural developments and educational processes, and moving towards stability in the transition towards a sustainable world society. Advanced technologies, especially ICT, have contributed to the creation of the *digital divide*. Those that can afford access to technology, benefit, thereby increasing their wealth – unlike the communities with little or no access to electricity, water or the minimum essentials of life. First-rate education and health care are vital investments in the only assets the poor can control: their own labour, enterprise and ingenuity. Both developed and developing countries should work together to achieve what our faiths demand: peace, forgiveness, moderation, and above all *humanitarianism*, for all mankind.

On the topic of sustainable rationality: People talk about coping with climate change while the threat of global warming requires reductions in emissions and other "greenhouse gases" by 60%, promoting energy efficiency and relying on renewable energy sources. The 1997 Kyoto Protocol should be implemented. Furthermore, the Middle East is a water-impooverished part of the world; a *Blue Revolution* would increase agricultural productivity per unit of water, while improving management of watersheds and flood plains. The three categories of pressing global challenges Jean Francois Rischard of the World Bank referred to cover a wide range of problems: in Category I, he enumerated problems involving the *global commons* such as global warming; biodiversity; deforestation and water deficits, etc. Category II included problems requiring a *global commitment* such as the fight against poverty; conflict prevention; combating terrorism; education for all; and global infectious diseases; would that

he had added a *global commitment to regional commons*.

Global warming brings rising sea levels and other abnormal indications: note the disasters – the rain; the floods in India, Nepal, Pakistan and Bangladesh – the suffering and the droughts. The tsunami is the greatest humanitarian disaster in recent world history. It is even more tragic because a report produced 17 years ago could have reduced some of the casualties. The Report of the Independent Commission on International Humanitarian Issues set out, among other things, a blueprint for disaster management, pointing out that the international community had failed to construct a viable method for dealing effectively with the humanitarian dimensions of disasters. The Report (published as the book *Winning the Human Race?*) was presented to the United Nations General Assembly in 1987 with detailed recommendations for coping with natural disasters: it recommended that the UN should elaborate a code of conduct to regulate the management of disasters, under the principle that humanitarian criteria ought to prevail over any political or sovereignty constraints for the limited period of the emergency; “Mercy corridors” could be created to facilitate the entry of relief personnel and the import of goods to ensure unhindered access of assistance to victims (precisely the issue at Aceh); the United Nations should designate a central coordinating body to coordinate relief efforts with a prearranged formula for the collection of funds (reducing the need for *ad hoc* funding); the UN body should maintain a central data bank on all phases of disaster management: prevention, preparedness, relief and rehabilitation; such a body should work with its national counterparts in addition to governments having national disaster plans; governments, humanitarian organisations and the international community should promote the progressive development of international law whereby countries prepare for disaster relief within their own territory and take preventive measures to minimise the resultant suffering; accepting relief from the international community if their own resources are inadequate; trying to assist another country in the event of a disaster in good faith.

Disaster management programmes of prevention, preparedness, relief and rehabilitation must, at least in part, be

devised by insiders at the local level so as to obtain greatest efficiency as appropriate to the culture of the people in need. Developed countries reduce their risk by tougher planning and building regulations and they have state emergency services within national disaster planning procedures whereas in developing countries the magnitude of the disaster seems to be amplified. The Tsunami tragedy is an incentive for the UN to act on the report and for all governments to create national disaster programmes.

We talk about ‘drying the swamps of terror’ by dropping bombs. The time has come to talk about drying the swamps of terror by empowering citizens; by building a multilayered civil society. In the Club of Rome, we believe that growth is not to be equated with equity. The Genuine Progress Indicator (GTI) takes into account traffic, pollution and crime and adds unaccounted benefits such as unpaid childcare and volunteer work. The wealth of several countries has declined, even where the GNP has increased once depletion of natural capital has been factored in. Ecological footprint expresses the carrying capacity per capita of available ‘global hectare’ for renewable use. Today it already exceeds the earth’s availability by about 20% as mankind uses 1.2 ‘earths’ to satisfy human ‘wants and needs’. Human health is increasingly determined by environmental conditions, any deterioration (air pollution, poor water quality) is directly responsible for some 25% of all preventable ill-health, with diarrhoeal diseases and acute respiratory infections.

The *Global Marshall Plan Initiative* (GMPI) launched in Vienna in October last year, seeks an international order based on partnership and cooperation that should lead to an optimal use of human and natural resources for universal benefit. It offers a mode for stimulating worldwide socio-economic development to overcome poverty. Finite natural resources on our planet also force us to follow sustainability by introducing resource-efficient technologies and lifestyles.

The *Jordan Badia Research and Development Programme* joins both environments (the physical and human) in sustainable development studies. It is no secret that our region has the highest per capita share of arid lands and deserts, in effect, water poverty. It is an equally known fact that the region is wealthy in energy sources and has the highest fossil fuel reserves. A regional community of

water and energy may have similar benefits to that the community of steel and coal presented to post-war Europe.

The Badia Project is an example of what was described in the preamble of the IAS Tunis Declaration on Information Technology for Development in the Islamic World (2000) which stated:

“The teachings of Islam emphasise the importance of the well being of man, and underline the fact that Man’s relationship to the universe and to his fellow man must be one of stewardship and complementarity, respectively, and never one of mastery.”

I recently had the privilege of receiving an Honorary Degree of Doctorate of Laws in Pakistan, alongside Former Prime Minister Dr Mahathir Mohamad and Nelson Mandela from the International Islamic University of Islamabad, and was asked to deliver a lecture on ‘Education in the Muslim Ummah: Present Realities and Future Aspirations’. The term *Ummah* is ultimately of a religious nature and includes all Muslims. When we speak of education in the Muslim *Ummah*, we do not refer to any one Islamic country, as none of these countries in itself constitutes the Muslim *Ummah*. It is Islam that makes the Muslims an *Ummah* and reform of education and future aspirations cannot ignore or cancel this; otherwise it would be negating its fundamental nature. This huge task requires a lasting campaign to change the ideology of governments, the rich, and NGOs, the educationists, the intellectuals and people in the media. Muslims should always remember that, from the beginning of Islam and their *Ummah*, all their progress, achievements, energy and creativity were based on ‘*Read, in the name of your Lord.*’

The Islamic World Academy of Sciences provides an institutional umbrella for the *utilisation* of Science and Technology in the development of Islamic countries and humanity at large. The IAS programme addresses many contemporary issues with a view of benefiting, not only the Islamic world, but all mankind through a knowledgeable, cooperative, pragmatic and humanitarian approach to scientific and technological development, changing ignorance and the lack of vision into global responsibility and awareness.

Wassalmu Alaikum Wa Rahmatu Illahi Wa Barakatuh. ”

**Address of
Prof. Abdel Salam Majali
IAS President**



"It is a distinct honour for me to be able to pay tribute to His Excellency Dato' Seri Abdullah Ahmad Badawi, Prime Minister of Malaysia, for his patronage of this activity, here, in this pearl of the Orient, this beautiful modern city ... Kuala Lumpur, the current home of the Organisation of the Islamic Conference. Let me also extend my greetings to you all in this assembly of IAS Fellows, diplomats, academics, and scientists as we strive collectively to identify a scientific stance concerning important scientific matters that affect our lives... To shed a light on how we can move forward in the realm of Science and Technology, not only for the benefit of member countries of the Organisation of the Islamic World Academy of Sciences (OIC), but of all humanity.

This activity is an attempt not only to reach out to the science and technology community here in Malaysia, but also to the heads of state of the OIC. In the long established tradition of co-operation, and in the same resolute spirit that has been a hallmark of the golden era of our Islamic civilisation, to address critical issues important to our present and to our future.

Our gathering coincides with events that manifest regional and global transition, with the world witnessing the unfolding of one spectacular event after another. It is an exceptional opportunity for us to draw a roadmap for the future and evaluate our development efforts.

The renowned participants gathered here represent the local science and academic community as well the OIC diplomatic corps in Malaysia, as well as world class scientists who came from as far as Korea, Sweden and the US to be with us. I think this is a symptom of our willingness and theirs, to engage in meaningful discussion, a trait of scientists worldwide. We should, at some point, aim

to further engage the representatives of countries with large Muslim communities in our locality such as India and China, as well as Central Asia, as IAS Patron Prince Hassan of Jordan often remarks.

We are in fact reaching out and carefully nurturing a collaborative effort with the US National Academy of Sciences, the French Academy of Sciences, and the Royal Swedish Academy of Sciences. These well established prestigious entities have verified track records of helping out, of caring about Third World problems, and for lending a hand.

I cite this to dispel any uncertainty that might arise in the minds of people about the Islamic world, or Islamic countries, or indeed us Muslims. When we say "Islamic world," it is fair to imagine that we are referring to that *geographical* area that spans from Indonesia to Morocco, and from Kazakhstan to Uganda. What Carly Fiorina, the former CEO of Hewlett-Packard, once described as a super-state.

That includes all the races, creeds and religions that live within it and without excluding peoples of other faiths that live, and have lived in that area since the dawn of time, and are part of its social fabric. A closer look at the problems and ills, scientific and otherwise, in Islamic countries reveals that they are trans-religious, and cut across the barriers of religion, language, colour, gender or creed.... Any reference to Malaysia here is actually intended.

In what better location could we say this other than Malaysia. This multi-ethnic multi religious haven of peace and prosperity for all its peoples.

The IAS has always urged the political and scientific leaders of the OIC to always attempt to *integrate not segregate*, ...to extend their hands to their neighbours in friendship and not barricade themselves behind the ugly mask of seclusion.

**Your Excellency
Ladies and Gentleman**

Science and scientific activities are, in many OIC-Member Countries are not looked upon as priority areas. Neither are they considered a platform for sustained socio-economic development. Science is viewed as an expensive pursuit indulged in by either a few academics or individuals who are fond of spending long hours in their laboratories or staring at the monitors of their PCs. In general, science

has been only really prized by some political and community leaders. It has some way to go before becoming part of the public's priority list. People, it seems, are indifferent to the fact that had it not been for science and technology, our lives would not be as they are today.

Indeed science still is not considered to be a major component of the knowledge base of any country or community as with history, literature, the arts or music.

It is our intention to be a champion for stimulating and engaging the basic sciences in support of sustainable development, especially through capacity-building, knowledge-sharing and promotion of international and regional cooperation. As one of a number of academies promoting interest in basic sciences on a regular and programmatic basis, the IAS has a unique role to play in this area, not only by identifying and disseminating best practices but also by fostering synergies between modern science and local knowledge systems.

Let me acknowledge, at this juncture, the extensive support and involvement that the IAS has enjoyed in this endeavour from the scientific community represented by many academies of sciences. TWAS, the Pakistan Academy of Sciences, the Malaysian, Iranian, Kazak, Egyptian ASRT, and Moroccan academies have all helped in the implementation of collaborative science programmes of capacity-building nature. Although these entities represent the different types of academies of sciences, they have all shared a vision at some point with the IAS, and joined hands with us to implement joint activities.

Indeed, the IAS's aim to increase interaction among scientists from member states of the OIC, and to function as the Islamic Brain Trust would not have been addressed without the help and support of such entities.

**Your Excellency
Dear Colleagues**

The IAS's mission statement declares, the purpose of the Islamic World Academy of Science is "to provide an institutional set up for the utilisation of Science and Technology for the development of Islamic countries and humanity at large." I would underline the word *utilisation*. Since its launch, the IAS has addressed many issues facing the Islamic world, with a view of not only benefiting the

Islamic nation, but also of benefiting all humankind by means of a well-informed, co-operative, pragmatic and *humane* approach.

Promoting good scientific communication via the mass media should be a primary objective of all science academies. In communicating their ideas, scientists should explain the basis for their scientific conclusions or opinions, and be party to a dialogue between scientists, the public, and policy-makers. This may take many forms: public policy consultations and review committees, science fairs, and public information services provided by universities and research institutes.

Your Excellency Ladies and Gentlemen

Globalisation is a major trend shaping science today. There is growing technology demand from emerging economies. There is increasing world recognition of the interconnectedness of the planet's biophysical systems and improved communications, especially via the Internet. All these forces are boosting cross-border scientific cooperation and information exchange between individual researchers, institutions and governments. However, much of the expansion is occurring outside the boundaries of the countries of the South and the OIC.

The twentieth century witnessed global war, population explosion, space exploration, unimaginative strides in Information Technology, unthinkable feats in Biotechnology. We need to ask ourselves, as the representatives of science community in Developing countries, as to whether our contribution to some of these events was of a magnitude that reflects our historical and cultural size or even our wealth of natural resources.

OIC countries are still mostly exporters of raw materials, inexpensive agricultural products and low-technology manufactured goods. Sizeable ones amongst us still suffer from adult illiteracy, indebtedness, food insecurity as well as environmental degradation. Our contribution to global wealth is significantly small when compared to industrialized countries. Our contribution to global scientific output is close to insignificant.

Your Excellency Eminent Diplomats Distinguished Scientists

It is time that we all haul out a sound development policy from the mass of

information accumulated to our planners, decision-makers and scientists. An S&T template that our decision-makers can study, appreciate, and implement. A policy that is realistic and implementable. One that could be jump-started in months rather than years. A policy that we can adopt using our own human resources, and one which gives priority to inter-Islamic collaboration without closing the door in the face of help and assistance by the industrialized countries.

In this context, It is heartening to see a number of OIC countries such as Malaysia, Pakistan, Jordan, Egypt, Tunisia, the Emirates,... reacting promptly to the ICT revolution, and making up for lost development opportunities of the past, however much more on the collective level needs to be done.

It was also heart-warming to see the 2003 OIC Summit adopt a sensible yardstick to measure development in the domain of science and technology that we can all relate to.... VISION 1441.

VISION 1441 is a set of 4 goals, a number targets and performance indicators relating to the state of science and technology that we would like to see ourselves achieve by the year 2020. The newness of Vision 1441 lies in two main dimensions:

- (a) By incorporating quantitative and time-bound targets, the Vision demands specificity in development actions and emphasize systematic measurement;
- (b) By defining the goals in terms of outcomes - as distinct from inputs and outputs - it draws attention to the multi-sectoral determinants of outcomes.

These new elements may warrant changes in some practices and programs adopted by countries.

Vision 1441 serves as a visionary challenge to help galvanize new energies and resources for the S&T development agenda, with a focus on outcomes. Since it is clear that many countries and regions will not achieve the parameters of the vision by 2020, the risk of disappointment and cynicism must be mitigated. And there are other challenges: customizing the Vision to local conditions, harnessing contributions from sectors, focusing on outcomes among poor countries and population groups rather than on average

outcomes, and addressing incentives for both achieving and monitoring *outcomes*.

Vision 1441 manifests a commitment by OIC-Member Countries - rich and poor - or - North and South - to doing all they can to achieve a reasonable level of S&T advancement. To my mind it represents the long overdue marriage of *POLITICS and POLICIES!*

Your Excellency Distinguished Scientists

An auxiliary aim that our science community needs to be involved in, one that falls beyond being a straight forward development goal, is the need of our scientists and technologists, to work hard at projecting the image of our Islamic faith, to counter balance the distortions that have become part of the lingo of the international media towards Islam, especially after 9/11.

In this context, I have to salute our friends from academies of sciences in Europe and the US who have extended a hand of friendship to our countries, especially our academies and academics.

It is worth noting that we talk about rebuilding bridges of trust between East and West, South and North, in the vicinity of the most populous OIC Country - Indonesia - that just a few months back witnessed free and fair elections witnessed by all. The outpouring of help from all over the world in the wake of Tsunami speaks louder than any words that I may utter.

Excellency Dear Friends

Permit me at this point Excellency to pay due compliments to Dr Mahathir Mohamad, former Prime Minister of Malaysia, and Honorary Fellow of our Academy, who for over 20 years has done so much for Malaysia and the OIC, indeed for Third World development through scientific and technological means. We are proud of what he has accomplished for Malaysia and the *Ummah*.

Jordan, where the Islamic World Academy of Sciences is based, has truly been an ideal pedestal from which we have reached out, with unprecedented support and total freedom, often at times of political uncertainty; to our counterparts all over the world without undue hindrance. For that, we are grateful.

Thank you."



IAS Ibrahim Memorial Award 2006

Call for Nominations

The Islamic World Academy of Sciences, Amman, Jordan, has instituted an Award in the name of one its Founding Fellows, the late Prof. Muhammad Ibrahim (1911-1988), who was an eminent medical doctor from Bangladesh. Prof. Ibrahim dedicated a great deal of time and effort to medical research that proved to be of benefit and value in his country and internationally.

The purpose of this Award is to promote scientific research in the field of medicine and medical sciences in the various countries that belong to the Organisation of the Islamic Conference (OIC).

Faculties and Schools of Medicine at universities, academies of sciences and other learned societies as well as private sector institutions are invited to nominate young scientists and technologists working in the medical field, for this Award.

Deadline for receiving nominations is 15 July 2006.

IAS Ibrahim Memorial Award 2006

The Awardee would be invited to the end of year conference of the IAS, where he/she would be presented with a commemorative medal and/or shield, and a compilation of IAS literature.

Travel expenses of Awardee would be covered from the Award Fund and by the Academy.

A token honorarium would be presented to the Awardee.

Contact IAS Secretariat

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E-mail: ias@go.com.jo

أكاديمية العالم الإسلامي للعلوم

أكاديمية العالم الإسلامي للعلوم مؤسسة مستقلة، غير سياسية، غير حكومية، وغير ربحية، تضم زملاء (أعضاء) مؤسسون ومنتخبون يمثلون المجتمع العلمي الإسلامي المبدع في شتى مناطق ودول العالم. تهدف الأكاديمية إلى الارتقاء بمناخ العلوم والتكنولوجيا المختلفة في العالم الإسلامي. جاء تأسيس الأكاديمية بناء على توصية تقدمت بها اللجنة الدائمة للتعاون العلمي والتكنولوجي (COMSTECH) إلى مؤتمر القمة الإسلامي الرابع، الذي عقد في الدار البيضاء عام 1984، حيث تم إقرار هذه التوصية. إثر دعوة من حكومة المملكة الأردنية الهاشمية وبرعاية كريمة من صاحب السمو الملكي الأمير الحسن بن طلال، عقد المؤتمر التأسيسي للأكاديمية في شهر تشرين أول (أكتوبر) 1986، بمشاركة شخصيات بارزة من دول إسلامية مختلفة تمت دعوتهم من قبل المؤسسات المنظمة للمؤتمر ليكونوا زملاء مؤسسين للأكاديمية. قررت الهيئة العامة للأكاديمية إعادة إطلاقها تحت اسم أكاديمية العالم الإسلامي للعلوم وذلك خلال اجتماعها في كوالالمبور بماليزيا خلال شهر مارس (آذار) 2005.

أما الأهداف الرئيسية للأكاديمية فهي:

- تقديم النصح والمساعدة إلى الأمة الإسلامية ومؤسسات الدول الأعضاء في منظمة المؤتمر الإسلامي، حول أمور تتعلق بالعلوم والتكنولوجيا وتطبيقاتها.
- تنفيذ برامج ونشاطات علمية وتكنولوجية، وتشجيع التعاون بين الباحثين في البلدان الإسلامية المختلفة حول مشاريع ذات أهمية مشتركة.
- تشجيع ودعم البحث العلمي حول أهم المشاكل التي تواجه البلدان الإسلامية، وتحديد التكنولوجيات المستقبلية الملائمة لغايات تنميتها واستخدامها.
- صياغة مقاييس للإنجاز والتحصيل العلمي، ومنح الجوائز والأوسمة للإنجازات العلمية المتميزة، بغية تطوير مراكز الإبداع في فروع العلوم المختلفة وتحفيز المبدعين.

نشرة أكاديمية العالم الإسلامي للعلوم

نشرة دورية تصدرها الأمانة العامة لأكاديمية العالم الإسلامي للعلوم، عمان، الأردن.

رئيس التحرير: المهندس منيف رافع الزعبي، مدير عام أكاديمية العالم الإسلامي للعلوم.

مساعد التحرير: ليثا جلال عارف، مسؤول برامج.

ترحب لجنة التحرير بكل المقالات، وخصوصاً القصيرة منها، واللجنة الحق في تقرير مدى ملائمة المقالات المقدمة للنشر وفقاً لتعليمات الأكاديمية.

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Useful Web Sites

Islamic World Academy of Sciences

COMSTECH

Islamic Development Bank (IDB)

Medical Journal of the IAS

OICexchange

SESRTCIC

ISESCO

www.ias-worldwide.org

www.comstech.org.pk

www.isdb.org

www.medicaljournal-ias.org

www.oicexchange.com

www.sesrtcic.org

www.isesco.org.ma



Prof. Naci Bor
(Turkey)

Prof. Naci Bor was born in Bor, Turkey in 1928. He completed his first degree from the Medical Faculty of Istanbul University in 1952.

He went to the United States (1952) and studied Internal Medicine. Later he specialized in Cardiology. He then went on to do research in Cardiac Physiology for which he was appointed to the staff at Emory University, Atlanta, Georgia (1958).

He taught and conducted research there for three years and then he was invited to Philadelphia Presbyterian Hospital to initiate research in Fetal Physiology. He was simultaneously appointed as a member of the teaching staff at the University of Pennsylvania.

Dr Bor returned to Turkey in 1963 to become the Founding Director of Physiology in a new Medical School in Ankara. In 1976 he took over the research facility and organized "The Medical and Surgical Research Center" at Ankara University. He has chaired this institute since then and conducted research actively. He simultaneously taught Physiology and conducted graduate courses in Physiology.

He has been a Member of Science Council of TUBITAK (Turkish Scientific and Technical National Research Council) and has taken part in its administration.

He has established two Science Journals (Doga, and Turkish Journal for Medical Sciences) and has served as their editor. He has also been on the board of three other science journals.

Prof. Bor is a former Chairman of the Research Center at Hacettepe University, and is currently the Chairman of the Anadolu Health and Research Foundation.

Prof. Bor is a Founding Fellow of the Islamic World Academy of Sciences (1986), and the Founding Editor of its Journal (1988). He was elected to the Council of the IAS for the period 1994-1999, and re-elected for the same post in 1999 and 2003.



Prof. Mohammad Ilyas Burney
(Pakistan)

Born in 1922, Prof. Burney got his MBBS (Punjab) in 1948, MC Path (London) in 1965, FCPS (Pakistan) in 1972 and FRC Path (London) in 1977.

He started his career in Virology at the Pakistan Armed Forces Institute of Pathology, where he established the first Department of Virology in 1959.

Of the very significant contributions made by Dr Burney were, the identification of a focus of Visceral Leishmaniasis in Baltistan in 1962 and the discovery of new species of *Phlebotomus* named after him as *P. burneyi*-specimen is kept in British Museum of Natural Sciences. He did original work, isolating the Chlamydia trachomatis and viruses EV-70 and Cocksackie-21 from cases of Acute Hemorrhagic Conjunctivitis and has worked on viral causes of Acute Respiratory Illness (ARI) and diarrheas of children.

In 1976 he isolated the Congo Virus from human cases of Viral Hemorrhagic Fever in a nosocomial outbreak in Rawalpindi General Hospital, and has the distinction of establishing Measles & HDC Rabies Vaccine Production Laboratories, the first such venture in the developing world.

Prof. Burney published more than 80 research papers as well 7 books.

Prof. Burney is an elected Fellow of the Islamic World Academy of Sciences (1994), Fellow of the Pakistan Academy of Sciences (1983), Fellow of the National Academy of Medical Sciences (Pakistan) and Emeritus Professor at the Army Medical College.

He is the awardee of the Hilal-i-Imtiaz (1982) and the WHO "Shousha Award" (1984).



Prof. Iba Mar Diop
(Senegal)

Prof. Diop was born on May 12, 1921 in Saint Louis, Senegal.

He graduated from the African School of Medicine and Pharmacy in 1947. He obtained a Diploma in Tropical Medicine (1956), State Doctorate in Medicine (1957) from Bordeaux, France. He became Assistant Professor (1970); Professor (1975); Dean, Faculty of Medicine and Pharmacy of Dakar, Senegal (1976); and then Honorary Dean, UCAD. Prof. Diop is a Founding Fellow of the Islamic World Academy of Sciences (1986), Council Member 1994-1998, and Acting President (1999).

Prof. Diop is Doctor Honoris Causa of Francois Rabelais University in Tours (France); former President, Association of Medicine Faculties and Schools in Africa (1977-1981); Member of the International Olympic Committee's Medical Commission; Member of the French "National Academy of Medicine" and Member of the African Academy of Sciences (1988).

He is Fellow of the Third World Academy of Sciences since 1987.

He is an awardee of the UNO Medal (Congo, 1961); Commander, French Academic Palms (1985); Officer, French Legion d'Honneur (1983); Orange Medal of the French Red Cross (1968); Medal of the City of Paris (1985); Officer, Academic Palms of Togo (1980); Chevalier, National Order of Cameroon (1983); Officer, National Order of Central Africa (1983); Commander, Congo Order of Merit (1985); Commander, National Order of Ivory Coast (1982). He is the first Laureate of the Alfred Quenum Prize for Africa (WHO).

He is the author of over 300 medical publications on Infectious and Tropical Diseases, Malaria, Bilharziosis, Bacterial Meningitis, and Hepatitis B where his research led to the first serological vaccine for Hepatitis B and in suggesting inoculation protocols to be included in the expanded immunization programme.



**Prof. Mohamed Iqbal Parker
(South Africa)**

Prof. Mohamed Parker was born in 1952 in Cape Town, South Africa.

He obtained his BSc in Biochemistry and Microbiology from the University of Cape Town in 1974, and his PhD in Biochemistry from the same University in 1979.

Prof. Parker has an outstanding research record with publications in major international journals.

He is president of the South African Society for Biochemistry and Molecular Biology. He was Associate Professor in Medical Biochemistry, University of Cape Town, 1990-1993. He was a Professor and DG, Murray Chair of Cancer Research, University of Cape Town, 1994-2000. He is Director, School of Biomedical Sciences and Head, Division of Medical Biochemistry University of Cape Town, 2000 to present. He is Director of Oesophageal Cancer Research Group/University of Cape Town from 1997-present.

Prof. Parker was a member in founding of the Federation African Societies on Biochemistry and Molecular Biology and is currently its Secretary General. He also serves as the African Regional Representative on the International Union of Biochemistry and Molecular Biology.

He is a founder member of the South African Academy of Sciences (ASSAF) and currently holds the position of Secretary General of this Academy. He is currently a member on the Inter Academy Panel (IAP) and the Inter Academy Council (IAC).

He has been part of the science and technology delegation of President Mbeki during the latter's official visits to Russia in 1998 and to Cuba in 2001. He also was a member of an official delegation to Japan and China in 1999 on behalf of the Ministry of Science and Technology to look at bilateral agreements between these countries and South Africa.

Prof. Mohamed Iqbal Parker was elected as a Fellow of IAS in 2001.

Islamic World Academy of Sciences (IAS)

The IAS is an independent, non-political, non-government and non-profit making organisation of distinguished scientists and technologists dedicated to the promotion of all aspects of science and technology in the Islamic world.

The establishment of the Islamic World Academy of Sciences was recommended by the Organisation of the Islamic Conference Standing Committee on Scientific and Technological Co-operation (COMSTECH), and subsequently approved by the Fourth Islamic Summit held at Casablanca in 1984. The Founding Conference of the Academy was held in Jordan in October 1986.

The government of Jordan hosts the IAS at Amman where the headquarters of the Academy started functioning in 1987.

The General Assembly of the Academy decided to relaunch the IAS as the Islamic World Academy of Sciences in March 2005.

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The main objectives of the Academy are:

- *To serve as a consultative organisations of the Islamic Ummah and institutions in the field of science and technology;*
- *To initiate science and technology programmes and formulate standards of scientific performance;*
- *To promote research on major problems facing the Islamic countries and to identify future technologies of relevance for possible adoption and utilisation; and*
- *To formulate standards of scientific performance and attainment, and to award prizes and honours for outstanding scientific achievements to centres of excellence in all science and technology disciplines.*

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Editorial Assistant: Lina Jalal, Programme Officer, IAS.

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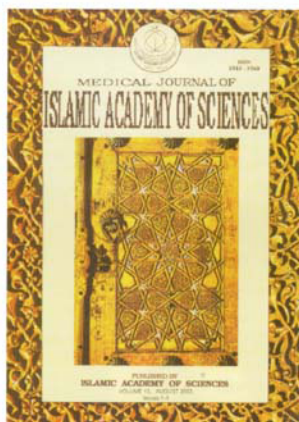
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New issue of IAS Journal on the web

The Medical Journal of the Islamic World Academy of Sciences is the IAS's main publication. Originally launched as a general science journal, it was recently re-launched as a specialised refereed medical publication.

The journal, which is edited and published by Prof. Naci Bor - IAS Fellow from Turkey - receives medical articles from many OIC countries as well as from scientists who are based in Europe and America.

The journal is published in both paper and electronic formats and has built up a wide readership since it was established in 1987.

The current issue of the Journal that appears on the web is Volume 15, Number 2. It carries five major articles; an Oncology article by N. Zarghami, J. Hallajzadeh, S. Samadzadeh, D. Hasanzadeh, S. Jabbarzadeh; a Geriatriy article by R. G. Ahmed; a Microbiology article by Abd el Rahman, A. El Garawany, O. A. Al Sagair, E. S. El Daly, K. A. El Shaikh, M. H. El Gebaly, A. A. Mousa; a Psychiatry article by Gh. R. Ghassemi, Gh. A. Assadulahi, S. Mallik; and a Toxicology article by N. A. M. Fahami, N. M. Ismail, and K. B. A. Khalid.

The Journal's web address is www.medicaljournal-ias.org

The Journal's web page can also be viewed through a hyper-link through the Academy's web page.

The Journal's chief editor can be reached at the following address:

Prof. Naci Bor, Mithatpasa Caddesi
66/5, 06420 Yenisehir, Ankara, Turkey.

Muslim Scholars OMAR AL-KHAYYAM (1044-1123 AD)

Ghayath al-Din Abul Fateh Omar Ibn Ibrahim al-Khayyam was born at Nishapur, the provincial capital of Khurasan around 1044 AD (c. 1038 to 1048). A mathematician, astronomer, philosopher, physician and poet, he is commonly known as Omar Khayyam - Khayyam means the tent-maker. Although generally considered as Persian, it has also been suggested that he could have belonged to the Khayyami tribe of Arab origin.

Algebra would seem to rank first among the fields to which he contributed. He made an attempt to classify most algebraic equation, including the third degree equations and, in fact, offered solution for a number of them. This includes geometric solutions of cubic equation and partial geometric



solutions of most other equations. His book *Maqalat fi al-Jabr wa al-Muqabala* is a master-piece on algebra and had great importance in the development of algebra. His remarkable classification of equations is based on the complexity of the equations, as the higher the degree of an equation, the more terms, or combinations of terms, it will contain. Thus, Khayyam recognized 13 different forms of cubic equation. His method of solving equations is largely geometrical and depends upon an ingenious selection of proper conics. He also developed the binomial expansion when the exponent is a positive integer. In fact, he has been considered to be the first to find the binomial theorem and determine binomial coefficients. In geometry, he studied generalities of Euclid and contributed to the theory of parallel lines.

The Saljuq Sultan, Malik-shah Jalal al-Din, called him to the new observatory at Ray around 1074 and assigned him the task of determining a correct solar calendar. Khayyam introduced a calendar that was remarkably accurate, and was named as *Al-Tarikh-al-Jalali*. It had an error of one day in 3770 years and was thus even superior to the Georgian calendar (error of 1 day in 3330 years).

His contributions to other fields of science include a study of generalities of Euclid, development of methods for the accurate determination of specific gravity, etc. In metaphysics, he wrote three books *Risala*, *Dar Wujud* and the recently discovered *Nauruznamah*. He was also a renowned astronomer and physician.

Apart from being a scientist, Khayyam was also a well-known poet*. In this capacity, he has become more popularly known in the Western world since 1839, when Edward Fitzgerald published an English translation of his *Rubaiyat* (quatrains). Khayyam wrote a large number of books and monographs in the above areas. Out of these, ten books and thirty monographs have been identified. Of these, four concern mathematics, three physics, three metaphysics, one algebra and one geometry.

His influence on the development of mathematics in general and analytical geometry, in particular, has been immense. His work remained ahead of others for centuries until the times of Descartes, who applied the same geometrical approach in solving cubics. His frame as a mathematician has been partially eclipsed by his popularity as a poet.

* Prof. Ali Al-Daffa' FIAS disputes the fact that Omar Khayyam was infact responsible for the *Rubaiyat* (quatrains), and quotes Zokofsky who had infact claimed that at least eighty-two verses of the *Rubaiyat* were written by other poets.

(Taken from: Personalities Noble, National Science Council of Pakistan, edited by Hakim Mohammad Said).

Second Revised Edition (English and Arabic). Published by the Islamic World Academy of Sciences (2000).