

ISLAMIC WORLD ACADEMY OF SCIENCES

Newsletter



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Selangor to host 17th IAS Conference in December 2009 on the theme:

Towards the Knowledge Society in the Islamic World: Knowledge Production, Application and Dissemination



HRH the Sultan of Selangor

Under the patronage of HRH the Sultan of the Malaysian State of Selangor, the Islamic World Academy of Sciences (IAS) will convene its 17th international conference in the city of Shah Alam, the capital of the Malaysian State of Selangor, from 14-17 December 2009.

The theme of the conference will be; *Towards the Knowledge Society in the Islamic World: Knowledge Production, Application and Dissemination.*

Today, knowledge is a major component in production processes. A new economic and productive paradigm is emerging in which the most important factor is not the availability of capital, labour, raw materials or energy, but the intensive use of knowledge and information. Comparative advantage is increasingly determined by the competitive use of knowledge and of technological innovations. This centrality makes knowledge a pillar of the wealth and power of nations.

In 2003, the European Commission defined the *knowledge society* as a society that is characterised by a number of

and communications technologies (ICTs), increased emphasis on innovation in the corporate and national context, the development of knowledge-intensive business service economies and knowledge management. The 2003 Arab Human Development Report stated that the knowledge society is one in which knowledge diffusion; production and application become the organizing forces of people's activities: culture, society, the economy, politics.

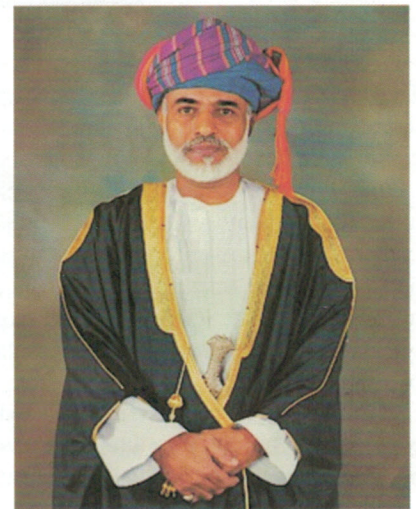
OIC countries have been striving to achieve steady socioeconomic development. With the diffusion of ICTs as a prerequisite, actions are needed to invigorate; (a) knowledge production, (b) knowledge application and (c) knowledge dissemination; to help OIC countries build knowledge societies and achieve rapid socioeconomic development.

The 17th IAS Conference of 2009 will be organised around these three themes, engaging those with expertise and resources (human and material) to contribute.

The Objectives of the conference is:

- To engender public awareness of the concept of knowledge society in general, and in decision-making circles in particular;
- To assess the role of women as knowledge producers in science and scientific enterprise in OIC and developing countries;
- To highlight the hurdles facing R&D in OIC countries (knowledge workers' views);
- To strengthen private sector science linkages (knowledge application);
- To strengthen the linkages between science and scientific community and the media (knowledge dissemination);

To engage the youth of OIC countries in science, technology and innovation (STI) (knowledge for the future)



HM the Sultan of Oman

IAS receives donation from HM the Sultan of Oman

His Majesty Sultan Qaboos Bin Said of Oman has, in November 2008, made a generous donation to the Trust Fund (Wakf) of the Islamic World Academy of Sciences (IAS). This is a special fund that is administered by the IAS proceeds from which are allocated to the programmes budget of the Academy.

His Majesty is a very strong supporter of scientific and technological activities in the region and globally; and has made numerous donations to such noble endeavours worldwide.

Upon receiving the donation, Dr Abdel Salam Majali, President of the IAS and IAS Director General communicated the appreciation of the entire Fellowship of the IAS to His Majesty. A note of thanks and appreciation was also communicated to H E the Omani Ambassador in Amman; Mussalam Bin



The Selangor State Mosque; Shah Alam.

The conference will bring together Malaysian, OIC and international experts who are committed to helping OIC countries to develop into knowledge societies.

Around 250 participants are expected to attend this international activity including around 100 IAS Fellows and invited speakers from outside Malaysia, as well as academics, decision-makers, scientists, researchers, presidents/representatives of academies of sciences. It is expected that around 150 scientists and academicians from Selangor and Malaysia will participate.

Around thirty papers are expected to be presented at the conference. Free-Submission (general science articles/papers not necessarily related to the theme of the conference) and poster presentations by participants are welcome. These may be distributed at the conference and depending on the availability of time; some presenters of papers under this category may be allocated presentation time (10 minutes each). Arrangements for posters can be made upon prior request.

The papers and proceedings of the conference will be reviewed, edited, and published by the IAS in due course in a quality volume conforming to international standards.



**Selangor State Minister Dr Halimah,
Prof. Latif and IAS-DG.**

CONFERENCE COMMITTEES (TENTATIVE)

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His Royal Highness the Sultan of Selangor.

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Prof. Adnan Badran FIAS.
Rt. Hon. Tan Sri Dato Khalid Ibrahim.
Tan Sri Datuk Dr. Omar Abdul Rahman FIAS.
Prof. Abdul Latif Ibrahim FIAS.
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Dato' Haji Mohd Adanan Isman
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Prof. Dato' Dr. Zakri Abdul Hamid FIAS

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National Secretariat – UNISEL and the International Islamic Academy for Life Sciences and Biotechnology (IIALSB); and

Prof. Syed Muhammad Qaim (Germany)



Prof. Syed Muhammad Qaim received the 2008 'Becquerel Medal' of the Royal Society of Chemistry Radiochemistry Group. This is a biennial award for a scientist who has made an outstanding lifetime's contribution to Radiochemistry.

Professor Qaim was born on 05 January 1941 in British India. He is married and has one child. He is a German national of Pakistani origin.

He obtained a BSc (1958) and an MSc (1961),

both from the Government College and the University of the Punjab in Lahore, Pakistan, a PhD from Liverpool University, UK (1964), a DSc from Birmingham University, UK (1977) and a Habilitation Certificate from the University of Koeln, Germany (1993).

Dr. Qaim went to Germany in 1968 as an Alexander von Humboldt Fellow and worked for two years at the University of Mainz. Since 1970 he has been working at the Institute of Nuclear Chemistry of the Research Centre in Juelich, Germany, holding the following positions: Scientist (1970-1975), Group Leader (1975-1985), Division Leader (1985-1996), and Deputy Director of the Institute (1996-2006). He was also selected as *Privatdozent* of Nuclear Chemistry at the University of Koeln (1993), and later became a Professor (1997).

Prof. Qaim is a Fellow of the Royal Society of Chemistry, London (1974), and a Fellow of the Institute of Physics, London (1974). He was elected an Honorary Fellow of the Hungarian Physical Society, Budapest (1988), a Foreign Fellow of the Pakistan Academy of Sciences (1990), a Fellow of the World Literary Academy, Cambridge, UK (1994), and an Associate Fellow of the Academy of Sciences for the Developing World, Trieste, Italy (2001).

Prof. Qaim has about 340 research articles to his credit as well as four books and several technical reports. For the last 12 years he has been working as the Co-ordinating Editor of the international nuclear chemistry journal *Radiochimica Acta*.

Prof. Qaim has received many honours. He was awarded the Roland Eotvos Medal of the Hungarian Physical Society (1988) for his outstanding work on trinucleon emission in fast neutron induced reactions, and the Pergamon Press JARI Medal Award (1990) for developing novel radionuclides for medical applications. Recently he was awarded a second Honorary Doctorate from the Yorker International University, New York/Florence (2007). Prof. Qaim received the high civil award "Sitara-i-Imtiaz" from the President of the Islamic Republic of Pakistan (1999). The Egyptian Atomic Energy Authority awarded him its Medal of Honour (2006) for furthering Egyptian research and development activities (particularly related to the newly-installed cyclotron in Cairo), and the Egyptian Nuclear Physics Association awarded him its Medal and Certificate of Merit for the promotion of science in Egyptian universities (2006).



IAS Ibrahim Memorial Award 2009

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 of medicine 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 1 October 2009.

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

PO Box 830036, Amman 11183, Jordan

Telephone: (9626) 5522104 – Fax: (9626) 5511803

E-mail: ias@go.com.jo

Prof. Hussein Samir Salama (Egypt)



Prof. Hussein Samir Salama received the 2007 Mubarak Prize in Advanced Technological Sciences/Basic Sciences

Prof. Salama was born on 26 January 1936 in Gharbia, Egypt. He is married with two children. He is fluent in Arabic, English, French and German.

He obtained a BSc (1955) and an MSc in Entomology (1959), both from Ain ash-Shams University, Egypt, and a PhD in Entomology (1962) from the University of Cairo (UoC), Egypt. He was a Post-Doctoral Fellow in the Department of Entomology of the University of Alberta, Canada (1963-1965). He obtained a DSc in Entomology from UoC (1987).

He started his career as a Research Assistant in the Entomology Research Unit of the National Research Center (NRC) in Cairo, Egypt (1956), and then became Researcher (1962-1967), Associate Research Professor (1967-1973), and Research Professor of Entomology at NRC in 1973. He was a Fellow of the Alexander Von Humboldt Organisation and joined the Institute of Applied Zoology at the University of Munich, West Germany (1974-1976). He became Vice-President (1987), President (1988-1992), and then Emeritus Research Professor at NRC (1996).

Prof. Salama has been a member of the Governing Board of the NRC, Vice-President of the Research Council for Basic Sciences of the Egyptian Academy of Scientific Research and Technology, a member of the National Committee for Biological Sciences, President of the Egyptian Institute for Scientific Culture (1991), a member of the International Union of Biological Sciences (IUBS), the Association for the Advancement of Agricultural Sciences of Africa (AAASA), and the African Association of Insect Scientists (1984), Vice President of the Entomological Society of Egypt and a member of the Third World Academy of Sciences (TWAS) and the African Academy of Sciences.

He was awarded the State Prize for Biological Sciences (1973), the Golden Medal of the NRC (1981), the Golden Medal of the Entomological Society of Egypt (1982), the State Prize for Sciences-Prize for Agricultural Sciences (1983), the African Academy of Sciences Prize for Agriculture (1991), Recognition State Prize for Basic Sciences (1994) and the Scientific Recognition Prize of the NRC. He has been awarded the Merit of Science and Arts-First Rank three times.

Prof. Mohammad Baha-Eldin Fayez (Egypt)



Prof. Mohammad Baha-Eldin Fayez received the 2008 Mubarak Prize in Advanced Technological Sciences/ Basic Sciences

Prof. Fayez was born on 4 February 1927 in Cairo, Egypt.

He obtained a BSc in Chemistry from the University of Alexandria, Egypt, (1948), and a PhD in Chemistry from the University of Glasgow, UK (1956).

He developed his professional career as a practicing scientist at the National Research Centre (NRC) in Cairo, Egypt, and as a science and technology executive at the Egyptian Academy of Scientific Research and Technology, where he was Vice-President for almost eight years. He founded and directed Egypt's UNDP-funded *Transfer of Knowledge through Expatriate Nationals* program (since 1980). He was Director of the NRC (1984-1987). He played a key role in the formulation of Egypt's National Technology Policy (1984).

Prof. Fayez has represented Egypt in most UN and international events related to the transfer of technology for the benefit of developing countries. He has been the Chairman of the United Nations Intergovernmental Committee on Science and Technology for Development, New York, and of UNCTAD's Committees on the Transfer of Technology and the Reverse Transfer of Technology, Geneva. He founded the Department of Chemistry of Natural Products at the National Research Centre, Cairo. He is currently an Emeritus Research Professor at the NRC.

Prof. Fayez has supervised a considerable number of MSc and PhD theses, has authored more than 100 research publications, and has six industrial inventions to his credit. One of these inventions relates to the discovery and manufacture of one of the most effective urinary tract medicines in use today.

He was awarded the Egyptian State Prize for Chemistry (1966), the Prize for Islamic Medicine by the Kuwait Foundation for the Advancement of Science (1982), the World Intellectual Property Organisation (WIPO) Prize for Outstanding Invention of the Year (1984), and the Egyptian State Prize of Merit in Sciences (1990).

Publications of the Islamic World Academy of Sciences

Conference Proceedings

- 1) *The Islamic Academy of Sciences*. Proceedings of the Founding Conference (1986). Published by the Islamic Academy of Sciences, **Editor: A. Kettani (Morocco)**.
- 2) *Food Security in the Muslim World*. Proceedings of the first international conference, Amman (Jordan) (1987). Published by the Islamic World Academy of Sciences, **Editor: S. Qasem (Jordan)**.
- 3) *Science and Technology Policy for Self-Reliance in the Muslim World*. Proceedings of the second international conference, Islamabad (Pakistan) (1988). Published by the Islamic World Academy of Sciences, **Editors: F. Daghestani (Jordan), H. El-Mulki (Jordan), and M. Al-Halaiqa (Jordan)**.
- 4) *New Technologies and Development of the Muslim World*. Proceedings of the third international conference, (Kuwait) (1989). Published by the Islamic World Academy of Sciences, **Editors: F. Daghestani (Jordan), and S. Qasem (Jordan)**.
- 5) *Technology Transfer for Development in the Muslim World*. Proceedings of the fourth international conference, Antalya (Turkey) (1990). Published by the Islamic World Academy of Sciences, **Editors: F. Daghestani (Jordan), A. Altamemi (Jordan), and M. Ergin (Turkey)**.
- 6) *Science and Technology Manpower Development in the Islamic World*. Proceedings of the fifth international conference, Amman (Jordan) (1991). Published by the Islamic World Academy of Sciences, **Editors: F. Daghestani (Jordan), A. Altamemi (Jordan), and H. El-Mulki (Jordan)**.
- 7) *Environment and Development in the Islamic World*. Proceedings of the sixth international conference, Kuala Lumpur (Malaysia) (1992). Published by the Islamic World Academy of Sciences, **Editors: S. Al-Athel (Saudi Arabia), and F. Daghestani (Jordan)**.
- 8) *Health, Nutrition and Development in the Islamic World*. Proceedings of the seventh international conference, Dakar (Senegal) (1993). Published by the Islamic World Academy of Sciences, **Editors: N. Bor (Turkey), A. Kettani (Morocco), and Moneef R. Zou'bi (Jordan)**.
- 9) *Water in the Islamic World: An Imminent Crisis*. Proceedings of the eighth international conference, Khartoum (Sudan) (1994). Published by the Islamic World Academy of Sciences, **Editors: M. Ergin (Turkey), H. Dogan Altinbilek (Turkey), and Moneef R. Zou'bi (Jordan)**.
- 10) *Science and Technology Education for Development in the Islamic World*. Proceedings of the ninth international conference, Tehran (Iran) (1999). Published by the Islamic World Academy of Sciences, **Editors: M. Ergin (Turkey), M. Doruk (Turkey), and Moneef R. Zou'bi (Jordan) (ISBN 9957-412-7)**.
- 11) *Information Technology for Development in the Islamic World*. Proceeding of the tenth international conference, Tunis (Tunisia) (2000). Published by the Islamic World Academy of Sciences, **Editors: M. Ergin (Turkey), M. Doruk (Turkey), and Moneef R. Zou'bi (Jordan) (ISBN 9957-412-03-5)**.
- 12) *Biotechnology and Genetic Engineering for Development in the Islamic World*. Proceedings of the eleventh international conference, Rabat (Morocco) (2001). Published by the Islamic World Academy of Sciences, **Editors: A. S. Majali (Jordan), M. Ergin (Turkey), and Moneef R. Zou'bi (Jordan) (ISBN 9957-412-07-8)**.
- 13) *Materials Science and Technology and Culture of Science*. Proceedings of the twelfth international conference, Islamabad (Pakistan), (2002). Published by the Islamic World Academy of Sciences, **Editors: M. Ergin (Turkey), and Moneef R. Zou'bi (Jordan) (ISBN 9957-412-06-x)**.
- 14) *Energy for Sustainable Development and Science for the Future of the Islamic World and Humanity*. Proceedings of the thirteenth international conference, Kuching, Sarawak (Malaysia), (2003). Published by the Islamic World Academy of Sciences, **Editors: M. Ergin (Turkey), and Moneef R. Zou'bi (Jordan) (ISBN 9957-412-08-6)**.
- 15) *Science Technology and Innovation for Socioeconomic Development of OIC-Member Countries Towards Vision 1441*. Proceeding of the fourteenth international conference, Kuala Lumpur (Malaysia), (2005). Published by the Islamic World Academy of Sciences, **Editors: M. Ergin (Turkey), and Moneef R. Zou'bi (Jordan) (ISBN 9957-412-11-6)**.
- 16) *Higher Education Excellence for Development in the Islamic World*. Proceeding of the fifteenth international conference, Ankara (Turkey), (2006). Published by the Islamic World Academy of Sciences, **Editors: M. Ergin (Turkey), and Moneef R. Zou'bi (Jordan) (ISBN 978-9957-412-18-0)**. In press.

Books

- 1) *Islamic Thought and Modern Science*. Published by the Islamic World Academy of Sciences (1997) - **Author: Mumtaz A. Kazi**.
- 2) *Qur'anic Concepts and Scientific Theories*. Published by the Islamic World Academy of Sciences (1999) - **Author: Mumtaz A. Kazi**.
- 3) *Personalities Noble* **Editor: Hakim Mohammed Said**, Second Revised Edition. Published by the Islamic World Academy of Sciences (2000), **Editor: Moneef R. Zou'bi (Arabic-English) (ISBN: 9957-412-01-6)**.
- 4) *Declarations of the Islamic World Academy of Sciences*. Published by the Islamic World Academy of Sciences (2005), **Editor: Moneef R. Zou'bi (ISBN: 9957-412-09-4)**.
- 5) *Islamic World Academy of Sciences Outreach*. Published by the Islamic World Academy of Sciences (2005), **Editor: Moneef R. Zou'bi (ISBN: 9957-412-10-8)**.
- 6) *Intellectual Property Rights: An Introduction for Scientists and Technologists*. Published by the Islamic World Academy of Sciences (2006), **Author: Mohamed B. E. Fayeze (ISBN: 978-9957-412-18-0)**.

Periodicals

- 1) *Medical Journal of the Islamic World Academy of Sciences* (ISSN 1016-3360) - quarterly. Chief Editor: **Prof. Naci Bor FIAS**, Mithatpasa Cad. No. 66/5, Ankara, Turkey.
- 2) *Newsletter of the Islamic World Academy of Sciences* - quarterly. Chief Editor: **Moneef R. Zou'bi**.
- 3) *Islamic Thought and Scientific Creativity* (in Arabic) - quarterly Journal of the Organisation of the Islamic Conference (OIC) Standing Committee on Scientific and Technological Co-operation (COMSTECH). Arabicised version published by IAS with the support of the Royal Academy for Islamic Civilisation Research (Al-Albait Foundation) (publication ceased in 1996).



**Prof. Iftikhar Ahmad Malik
(Pakistan)**

Prof. Malik passed away on Wednesday 7 May 2008 in Islamabad. He was 72.

Prof. Malik was an eminent Pakistani scientist who devoted most of his working life to promoting science, and his own field of Medicine/Pathology; in his country.

Prof. Malik was born on 18 February 1936 in British India.

He obtained an MD from King Edward Medical College in Lahore, Pakistan (1958), and a DCP from the University of the Punjab (1963), MRC Path (1968) and PhD (1971), from the University of London. He was elected FCAP (1971), FRC Path (1981), FCPS (1987), FPAMS (1988), and FRCP Edinburgh (1993).

He was elected Fellow of the Pakistan Academy of Sciences (1990); Fellow of the Third World Academy of Sciences (1997).

Prof. Malik's research work was published widely with more than 400 research publications to his credit in the field of Infectious Renal and Neoplastic diseases. He was the Chief Editor of the Pakistan Journal of Pathology (PJP) up to 1994 and has been a member of the Editorial Advisory Board of Tropical Doctor, the Journal of American Medical Association (JAMA) and the Journal of College of Physician and Surgeons of Pakistan (JCPSP).

He was recipient of the Sitara-i-Imtiaz (SI)-Military (1981), the PMRC Medal and Biomedical Research Prize (1986), the Distinguished Services Medal (DSM - USUHS) of the US Army (1988), the Hilal-i-Imtiaz (HI)-Military (1992), and the Sitara-i-Imtiaz (SI) Civil in Medicine (1993).

Prof. Malik was elected as a Fellow of the IAS in 2000.



**Prof. John (Younis) Katili
(Indonesia)**

Prof. Katili passed away on Thursday 19 June 2008 in Jakarta. He was 79.

Prof. Katili was an eminent Indonesian scientist who devoted most of his working life to promoting science, and his own field of Geology; in his country and internationally.

Prof. Katili was born on 9 June 1929 in Indonesia. He was married and has two children.

He obtained an MSc in Geology from the University of Indonesia (1956), and a DSc in Geology from the Institute of Technology Bandung (ITB), Indonesia (1960). He also attended the University of Innsbruck, Austria. He was a Professor of Geology for over 40 years.

Prof. Katili was an Adviser to the Indonesian Minister of Mines and Energy and Acting Vice-Chairman of the Indonesian National Research Council. His most recent post was Vice-Chairman of the Indonesian Parliament.

He wrote over 150 scientific and policy papers in English and Indonesian on a wide range of topics. His contributions and achievements were internationally recognized, culminating in a *Doctorate Honoris Causa* award from the University of Stockholm, Sweden (1988).

Prof. Katili was elected as a Fellow of the IAS in 1991.



**Prof. Ibrahima Mar Diop
(Senegal)**

Prof. Ibrahima Mar Diop FIAS FTWAS. Prof. Diop passed away on Wednesday 13 August 2008 in Dakar. He was 87.

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

He graduated from the African School of Medicine and Pharmacy (1947). He obtained a Diploma in Tropical Medicine (1956), and a State Doctorate in Medicine (1957) from the University of Bordeaux, France.

He was appointed Head of Clinic at Dakar Faculty of Medicine and Pharmacy, Senegal (1965), succeeded at the French "Concours d'Agrégation des Facultés de Médecine" with a speciality in Infectious Diseases (1966), then became Assistant Professor (1970), Professor (1975), and Dean (1976), all of the Faculty of Medicine and Pharmacy at the University of Dakar, Senegal, and then Honorary Dean, University Cheikh Anta Diop (UCAD).

Prof. Diop has been a member of the following professional bodies: Founding President then Honorary President of the International Union against Venereal Diseases, a Fellow (1987) and Council Member (1992) of the Third World Academy of Sciences (TWAS). He was *Doctor Honoris Causa* of Francois Rabelais University in Tours, France.

He has been awarded the UNO Medal (Congo, 1961), the Orange Medal of the French Red Cross (1968), Officer in the Academic Palms of Togo (1980), and Commander in the National Order of Ivory Coast (1982), Chevalier in the National Order of Cameroon (1983), Officer in the National Order of Central Africa (1983), Officer in the French Legion d'Honneur (1983), Commander in the Congo Order of Merit (1985).

Prof. Diop was a Founding Fellow of the IAS.



Prof. Syed Zahir Haider
(Bangladesh)

Prof. Haider passed away on Saturday 23 August 2008 in Dhaka. He was 82. Prof. Syed Zahir left behind his wife, five sons, one daughter, a host of students and admirers to mourn his death.

Prof. Haider was born on 1 September 1927 in Dhaka, British India.

He obtained M. Sc. degree from the University of Dhaka (1948) and PhD from the University of London, UK (1958).

He obtained Diploma of Imperial College of Science and Technology (D.I.C.), (Analytical and Inorganic Chemistry), London, UK (1958). He became a Fellow of the Royal Society of Chemistry (FRSC), London, UK (1967) and a Chartered Chemist for life.

Prof. Haider has had a career of over 50 years at the University of Dhaka, Bangladesh. Prof. Haider was a specialist in: Inorganic Chemistry, Analytical, Coordination, and Nuclear and Bio-inorganic Chemistry. He has well over 250 academic papers to his credit, of which many have been published in national and international chemical journals.

He was a Fellow and a Council Member of the Bangladesh Academy of Sciences and Founding Editor of its Journal (1977-present) and President of the Bangladesh Environmental Society (1998-2000). He was awarded a gold medal by the Bangladesh Academy of Sciences in 1986. He was a President of the Bangladesh Chemical Society and Chief Editor of its Journal (1998 - 1999).

Prof. Haider was a Founding Fellow of the IAS and served as a Council Member (1994-1999). He was a life long Fellow and a council member of Asiatic Society of Bangladesh.



Prof. Mohammad Ilyas Burney
(Pakistan)

Prof. Burney passed away on Monday 29 September 2008 in Islamabad. He was 86.

Prof. Burney was born on 1 January 1922 in British India.

He obtained an MBBS from the University of Punjab in Lahore, Pakistan (1948), an MC Path. from the University of London, UK (1965), FCPS from Pakistan (1972) and FRC Path. from the University of London (1977).

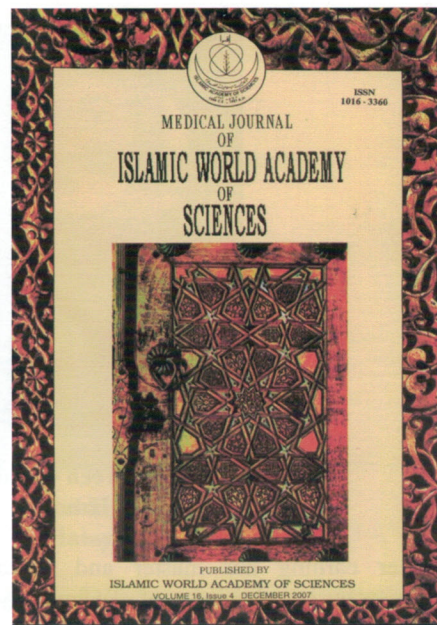
He started his career in Virology at the Pakistan Armed Forces Institute of Pathology, where he established the first Department of Virology (1959).

Prof. Burney has been 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 has established Measles & HDC Rabies Vaccine Production Laboratories - the first such ventures in the developing world, and has worked on viral causes of Acute Respiratory Illness (ARI) and diarrhoeas of children. He has published more than 80 research papers as well as seven books/monographs.

He has been awarded the civil award Hilal-i-Imtiaz by the Pakistani President (1982), and the World Health Organisation (WHO)'s "Shousha Award" (1984).

Prof. Burney was elected as a Fellow of the IAS in 1994.



New issue of IAS Journal in print and 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 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 16, Number 4. It carries five major articles; a Microbiology article by Raghad K. O. Al-Lihaibi and Ameena S. M. Juma; a Pharmacology article by A. Ali Mohammad, M. Mohammad Ali, K. Mahmud and S. Khadijeh; a Nutrition article by A. A. Kinsara and S. M. Farid; and an Anesthesiology article by Syed Jalal Hashemi, Hassan Ali Soltani and Rafieian Saied.

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.



Prof. Nesreen Ghaddar
(Lebanon)

After earning her master and doctoral degrees from the Massachusetts Institute of Technology (MIT), Ghaddar first worked as assistant professor at Kuwait University before joining AUB in 1990. She served as the chairperson of the Mechanical Engineering Department at AUB for six years from 2001-2007.

Her primary research focus is in the area of computational and experimental heat transfer, enhancement for efficient cooling, solar energy applications, energy conversion, modeling of moisture and heat transport processes for walking clothed humans, thermal comfort, and energy efficiency.

Recent work in thermal comfort has addressed an integrated approach to experimentally testing and modeling of a clothed-human body heat and mass transport processes and their interaction with their indoor environment. Her research approach for developing of ventilation models of clothed human from first principles has been original.

Ghaddar has recently been appointed as Associate Editor to the American Society of Mechanical Engineering (ASME) Journal of Applied Mechanics and is a member of the Editorial Board of the International Journal of Thermal Sciences. Ghaddar is also a Fellow of the American Society of Mechanical Engineering and a member of the editorial board of the International Journal of Green Energy. In 2003, she has received the *Outstanding Reviewer Award* for the ASME Journal of Heat Transfer.

Professor Ghaddar has published more than 50 archived journal articles and more than 50 refereed articles in conference proceedings. Her research and funding has come from many sources including UNDP, US Department of State, American Society of Air conditioning and Refrigeration Engineers, European Commission on Education and Culture, Swedish Research Council-MENA, and National Lebanese Council for Scientific Research.

She is currently the Qatar Chair Professor in Energy Studies. She was elected a Fellow of the IAS in 2007.



Prof. Mohammad Salimullah
(Bangladesh)

Mohammad Salimullah was born on 5 January, 1949 in Dhaka, Bangladesh. He passed B.Sc.(Hons) and M.Sc.(Thesis) in Physics from the University of Dhaka in 1971 and 1973, respectively. He began his career with a research fellowship on theoretical nuclear physics at the University of Dhaka and joined Jahangirnagar University, Savar, Dhaka, Bangladesh, as a lecturer in physics in March 1975. He obtained Ph.D. in Physics from IIT Delhi in 1980 on "Nonlinear Interactions of Electromagnetic Waves in Plasmas and Semiconductors". Prof. Salimullah has been actively engaged in teaching and research since his joining Jahangirnagar University. He was the first and only Ph.D. in Plasma Physics when he began to organize effective research in Plasma Physics in Bangladesh.

Since 1983 he paid several research visits to the Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy in the capacity of an Associate Member of the Centre, Visiting Scientistship Programme of ICTP, and Italian Laboratory Programme, and worked at the National Institute for Fusion Science, Nagoya, Japan on a Japan Society for Promotion of Science (JSPS) Programme.

His recent works on dusty plasmas, in particular waves and instabilities and the theory of Coulomb dust crystal formations in dusty environments, have initiated a lot of interest in the plasma physics community of the world. Recently, his group is engaged in research in quantum plasmas. He has to his credit more than 200 research papers so far published in international journals.

He has served as a member of the editorial board of the Bulletin of the Association of Asia Pacific Physical Societies and participated in many international meetings and international conferences, seminars and symposia, etc.

For his contribution to research in Physics, Prof. Salimullah has been awarded the H.P. Roy Gold Medal by the University of Dhaka in 1981; the Joint Award by Bangladesh Academy of Science and the Third World Academy of Sciences in 1986; The Bangladesh Universities Grants Commission Award in 1988; The Asiatic Society Award 2001; The Senior Scientist Award by the Bangladesh Academy of Sciences in 2002; He received the 7th "Kharazmi International Prize" from the Islamic Republic of Iran in 1994 for his research project on semiconductor plasma instabilities, and "The ISESCO Science Prize 2003" at the OIC meeting in 2003.

Prof. Salimullah was elected as a Fellow of the IAS in 2008.



Prof. Khatijah Mohd Yusoff
(Malaysia)

Prof. Khatijah was born on 12 July 1956 in Penang.

After receiving her degree in Microbiology in 1979 from La Trobe University, Australia; she won a La Trobe University research scholarship to complete her PhD on "Genetic and molecular analysis of plasmid RP1: Interactions with prophage B3 and aspects of conjugal transmission" in 1983.

She joined the Universiti Putra Malaysia (then known as Universiti Pertanian Malaysia) as a lecturer in 1983. After working as a post-doctoral Research Associate at the University of Newcastle-upon-Tyne, UK; she began to develop her research on NDV by collaborating with Professor Abdul Latif Ibrahim. She was promoted to Associate Professor in 1994 and became a full Professor in 2001. She is currently the Deputy Vice Chancellor for Academic and International Affairs at UPM.

She has received many awards including the 2005 Carlos J Finlay Prize for microbiology by UNESCO and the National Young Scientist Award in 1990.

Pursuing the vaccine research, she is currently investigating the potential of developing recombinant vaccines in various expression systems using reversed genetics as well as nanobiotechnology. Her other research interests include poultry viruses such as infectious bronchitis, infectious bursal disease and chicken anaemia viruses. Her research has also extended beyond viruses and poultry, to include human viruses such as the Nipah virus and the hepatitis B virus as well as *Escherichia coli*, *Campylobacter jejuni*, *Lactococcus lactis* and genetic diversity of Asian water buffalo and fresh water fish.

She has over 100 publications in refereed journals and well over 290 papers in proceedings and abstracts. In addition, she has filed several patents and trade marks, and currently holds a US patent.

Together with her colleagues, she has supervised over 100 postgraduate students, 75 of whom have graduated. She is also active in several local and international professional societies. She is one of the founding members of the Malaysian Society for Molecular Biology and Biotechnology, and she is also active in the Malaysian Society for Molecular Biology and Biochemistry, Malaysian Society for Microbiology and Malaysian Applied Biology Society. She is a member of the panel of reviewers for several journals. She was formerly the Chief Editor for the Asia-Pacific Journal for Molecular Biology and Biotechnology. She is also a member of the Malaysian Genetic Modification Advisory Committee. At the international level, she is a member of the American Society for Microbiology (USA), Society for General Microbiology (UK) and Third World Organisation for Women in Science (TWOWS).



Prof. Abdul Hamid Zakri
(Malaysia)

Malaysian-born Zakri is the Director, Institute of Advanced Studies, United Nations University (UNU-IAS) in Yokohama, Japan. He was the Co-Chair of the Millennium Ecosystem Assessment Board (2001-05), a four-year U.N. study undertaken by 1,360 experts from 95 countries to assess the state-of-health of the world's ecosystems. He was the Vice-President of the Academy of Sciences of the Developing World (TWAS); member of the Board of Trustees of the Institute for Global Environmental Strategies (IGES); member of the Arab Fund Fellowship Program, member of the International Cosmos Prize Committee, member of the Evaluation and Selection Panel for the 2006 Consultative Group on International Agricultural Research (CGIAR) Science Awards, and Expert member of the FAO/CGIAR 1st External Review (2007) of the Harvest Plus Challenge Program on High-Impact Research.

He was the deputy head of the UNU delegation at the World Summit on Sustainable Development (2002) and leader of the UNU delegation to the meetings of the UN Commission on Sustainable Development from 2003 to the present.

Prof. Zakri served as Deputy Vice-Chancellor of Universiti Kebangsaan Malaysia from 1992-2000.

He was the Founding President (1994-2000) of the Genetics Society of Malaysia.

Prof. Zakri chaired the CBD Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) from 1997-99. He led the Malaysian delegation in the intergovernmental negotiations on biosafety (1995-2000) which eventually led to the Cartagena Protocol on Biosafety (2003). Throughout the years, he has participated in meetings of UN bodies like the Food and Agriculture Organization (FAO) and the International Atomic Energy Agency (IAEA).

A graduate of Michigan State University, USA (M.S., 1974; PhD, 1976), Prof. Zakri's interests include biodiplomacy, education for sustainable development, and biotechnology and biodiversity policies for developing countries.

Recipient of a Fulbright-Hays Fellowship (1981), and a Gold Medal Award from the Rotary Research Foundation (1999), Prof. Zakri is a Fellow of the Academy of Sciences Malaysia (1995), the Academy of Sciences of the Developing World (TWAS) (1996), the World Academy of Art and Science (2003) and the Islamic World Academy of Sciences (2006). In 1998 he received the Langkawi Award, a national laureate for outstanding contribution in the field of environmental awareness in Malaysia. Three species known to science are named after him: a beetle (*Paleosenpharia zakrii*); a cicada (*Bomponia zakrii*);

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The late Dr Hakim Mohammed Said, President, Hamdard Foundation, Pakistan.

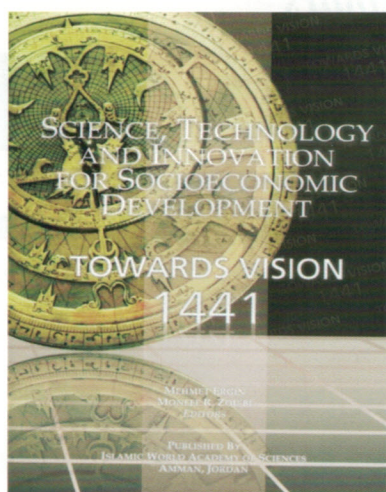
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14th IAS Conference Proceedings published

Throughout the 1980s and the 1990s, an effort was made by countries of the Organization of the Islamic Conference (OIC) as well as its various off-shoot organization to enhance the science and technology capabilities of the Ummah. The OIC Summit Conference which was held in Putrajaya, Malaysia, in 2003 adopted, for the first time, a vision for science and technology for OIC countries; Vision 1441. Vision 1441 (1441 is the Hijri year corresponding to the year 2020) is a sensible yardstick to measure development in the domain of science and technology that OIC decision-makers can relate to. It is a set of 4 goals, a number targets and performance indicators relating to the state of science and technology that OIC countries should aim to achieve by the year 2020. Vision 1441 manifests a commitment by OIC-Member Countries to doing all they can to achieve a reasonable level of S&T advancement. To the mind of many, it represents the long overdue marriage of POLITICS and POLICIES!

This book is proceedings volume of the 14th IAS Conference which was held in Kuala Lumpur, Malaysia; during March 2005. As well as addressing the topic of 'Vision 1441,' and in a typical IAS fashion, it also addresses a number of other topics including natural disaster mitigation; and on the other extreme 'innovation.' It also includes a broad collection of S&T opinion that characterises the Islamic World Academy of Sciences (IAS).

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

The government of Jordan hosts the IAS at Amman, where the Secretariat started functioning in 1987.

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

The main objectives of the IAS are:

- *To serve as a consultative organisation for the Ummah and for institutions in the field of science and technology;*
- *To initiate science and technology programmes of benefit to the development of Islamic countries;*
- *To promote research on major problems facing 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 achievement to centres of excellence in all science and technology disciplines.*

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IAS Ibrahim Memorial Award Laureate: 2007

Dr Mohammed Manna Al-Qattan
(Saudi Arabia)



Prof. Mohammed Al Qattan is a Canadian Board Certified plastic surgeon working at King Khalid University Hospital, under King Saud University, Riyadh - Saudi Arabia.

Prof. Qattan is fully trained in all aspects of plastic and cosmetic surgery. His specialization in Hand and Brachial Plexus surgery is well renowned and well documented in Saudi Arabia.

He also performs liposuction (facial and body), facial implant surgery, laser skin resurfacing and hair restoration surgery.

Prof. Mohammed Qattan has published more than 250 research paper is some of the leading scientific journal around the globe. He was a renowned speaker at some of the major conferences and symposia locally and internationally.

Muslim Scholars AL FARGHANI (C. 800)*



Abul-Abbas Ahmad Ibn Muhammad Ibn Kathir al-Farghani, born in Farghana, Transoxiana, was one of the most distinguished astronomers in the service of al-Mamun and his successors. He wrote "Elements of Astronomy" (*Kitab fi al-Harakat al-Samawiya wa Jawami Ilm al-Nujum* i.e. the book on celestial motion and thorough science of the stars), which was translated into Latin in the twelfth century and exerted great influence upon European astronomy before Regiomontanus.

He accepted Ptolemy's theory and value of the precession, but thought that it affected not only the stars but also the planets. He determined the diameter of the earth to be 6,500 miles, and found the diameters of the planets.

Al-Farghani's activities extended to engineering. According to Ibn Tughri Birdi, he supervised the construction of the Great Nilometer at al-Fustat (old Cairo). It was completed in 861, the year in which the Caliph al-Mutawakkil, who ordered the construction, died. But engineering was not al-Farghani's forte, as transpires from the following story narrated by Ibn Abi Usaybi'a.

Al-Mutawakkil had entrusted the two sons of Musa Ibn Shakir, Muhammad and Ahmad, with supervising the digging of a canal named al-Ja'fari. They delegated the work to Al-Farghani, thus deliberately ignoring a better engineer, Sanad Ibn Ali, whom, out of professional jealousy, they had caused to be sent to Baghdad, away from al-Mutawakkil's court in Samarra. The canal was to run through the new city, al-Ja'fariyya, which al-Mutawakkil had built near Samarra on the Tigris and named after himself. Al-Farghani committed a grave error, making the beginning of the canal deeper than the rest, so that not enough water would run through the length of the canal except when the Tigris was high. News of this angered the Caliph, and the two brothers were saved from severe punishment only by the gracious willingness of Sanad Ibn Ali to vouch for the correctness of al-Farghani's calculations, thus risking his own welfare and possibly his life. As had been correctly predicted by astrologers, however, al-Mutawakkil was murdered shortly before the error became apparent. The explanation given for Al-Farghani's mistake is that being a theoretician rather than a practical engineer, he never successfully completed a construction.

The *Fihrist* of Ibn al-Nadim, written in 987, ascribes only two works to Al-Farghani: (1) "The Book of Chapters, a summary of the *Almagest*" (*Kitab al-Fusul, Ikhtiyar al-Majisti*) and (2) "Book on the Construction of Sun-dials" (*Kitab 'Amal al-Rukhamat*).

The *Jawami* or 'The elements' as we shall call it, was Al Farghani's best-known and most influential work. Abd al-Aziz al-Qabisi (d. 967) wrote a commentary on it, which is preserved in the Istanbul manuscript, Aya Sofya 4832, fols. 97v-114v. Two Latin translations followed in the twelfth century. Jacob Anatoli produced a Hebrew translation of the book that served as a basis for a third Latin version, appearing in 1590, whereas Jacob Golius published a new Latin text together with the Arabic original in 1669. The influence of 'The elements' on mediaeval Europe is clearly vindicated by the presence of innumerable Latin manuscripts in European libraries.

* Ninth Century AD.

** Hakim Mohammad Said (Editor), 2000. Personalities Noble, National Science Council of Pakistan. Second Revised Edition (English and Arabic). Published by the Islamic World Academy of Sciences.