

ISLAMIC ACADEMY OF SCIENCES Newsletter



June - August 2001

Volume 15

Number 25

Prince Hassan patronises launch of Culture of Science Initiative by IAS



HHRH Prince Al-Hassan Ibn Talal, Chairman of the Jordan Higher Council of Science and Technology, patronised on Saturday 17 March 2001, the launch of the Culture of Science Initiative by the Amman-based Islamic Academy of Sciences, in his capacity as Founding Patron of the IAS.

In his address on the occasion, HRH highlighted a number of reasons as to why governments should support science and scientific activities; namely to advance knowledge and build a cadre of qualified individuals, as well as establish a strong base for development. He went on to point out that the basic indicator for evaluating the level of science and technology in any country has always been the number of papers published by the scientists of the country rather than the amount invested directly in S&T, adding that investment in some basic sciences has a long 'pay-back' period.

HRH stressed the need to pay special attention to Bio-ethics and Info-ethics, and proposed the development of indigenous terminologies that stem from these concepts while bearing in mind that "Information Technology is sweeping aside all else," within the context of globalisation.

HRH underlined a number of the basic difficulties that face the S&T sector in Islamic countries including the high level of illiteracy, especially among females, as well the continuing trend of young students turning away from basic sciences. He emphasised the need to increase investment in the S&T sector as well as pay special attention to all forms of technology on equal footing quoting in this context from Daniel Bell's ... "Post-industrial Society."

The Academy Patron addressed the important phenomenon of "Brain Drain" and pondered as to how it can be converted into "Brain Gain," adding that again in our countries we need to be innovative and eliminate the copy-cat culture in our S&T thinking.. HRH went on to propose the concepts of Innovation, Continuity and Change as cornerstones when appraising the process of development especially from an S&T standpoint. In other words, HRH proposed, the general concept of "Continuity of Innovative Change."

Prince Hassan went to propose that at some point the topic of S&R (Science and Religion) needed to be addressed by scholars and specialists, pointing out that almost one-third of the verses of the Holy Quran (approximately 750 verses) address

IAS receives Jordan grant

The Academy has recently received the annual grant of the Hashemite Kingdom of Jordan for 2001.

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 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 the various OIC meetings.

It is worth noting that Jordan is one of a number 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.

The President and the Council of the Academy have communicated their thanks to H E Mr Abdul Ilah Khatib, Minister of Foreign Affairs of Jordan, who has kindly instructed the release of the grant.

the mind and its faculties. He added that such a fact can represent a suitable intro into the Culture of Science Initiative being organised by the IAS. He emphasised the need to start a new scientific debate within the scientific community to arrive at new concepts within the framework of scientific culture.

HRH concluded by proposing a number of ways and means through which science may be funded including the various forms of Waqfs, and Zakat Trusts,....

(Continued on page 4)

A Profile of the late Dr Ali Kettani

Founding Fellow, Ex-Secretary General and Vice-President IAS

Moneef R Zou'bi
Director General, IAS

The late Dr Kettani was born on September 27, 1941 in Fes (Morocco). He was married to Mrs Nuzha Kettani and had four children Hassan, Hamza, Hussein and Hasna.

He received his school education in Morocco and Syria. He obtained a Diploma d'Ingenieur Electrician from the Swiss Federal Institute of Technology, Lausanne, Switzerland, 1963; went on to follow higher studies in Nuclear Engineering, Universities of Geneva and Lausanne; and then went on to obtain a PhD in Electrical Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania, USA, 1966, at the age of 25.

He was successively: instructor, Ecole d'Ingenieurs, Rabat, Morocco, 1964; Assistant Professor, Electrical Engineering Department, University of Pittsburgh, 1966-1968; Associate Professor, Electrical Engineering Department, College of Engineering, University of Riyadh, Saudi Arabia, 1968-1969; Associate Professor, Electrical Engineering Department, College of Engineering, University of Petroleum and Minerals, Dhahran, Saudi Arabia, 1969-1973; Professor, 1973-1982; Head, Electrical Engineering Department, same, 1972-1974; Visiting Professor, Massachusetts Institute of Technology (MIT), Cambridge, Mass., USA, 1975-1976; and Professor, Summer Graduate Courses, Italy, 1970-1978.

Dr Kettani was a world authority on Energy, especially Solar Energy. He published numerous papers in Europe and the US on Direct Energy Conversion, Plasma Engineering, Energy and Development.

Dr Kettani developed a keen interest in the welfare of Muslims around the world. In this capacity he was sent by the late King Faisal of Saudi Arabia on a fact-finding mission to Europe and America in 1973-74. He later went on several similar missions to visit Muslim minorities in Africa, Australia, Europe, South America etc. Dr Kettani helped organize many

Muslim communities around the world, among them the Muslims of Australia and the Pacific. Since 1980, he has been helping the Andalucians to re-establish their Islamic traditions.

He was recognized as an authority on the affairs of the Muslim minorities, and wrote many books on the subject including "Muslim Minorities in the World Today," which was published in English, and in Arabic "Resurgence of Islam in al-Andalus: Muslims in Europe and Americas." He also wrote dozens of articles on the subject.



Dr Ali Kettani

In 1981, Dr Kettani was chosen by the Organization of the Islamic Conference (OIC) to establish the Islamic Foundation for Science Technology and Development (IFSTAD), Jeddah, Saudi Arabia, and was appointed as its first Director General. In this capacity, he worked to promote cooperation between the Muslim countries in the field of Science and Technology. He helped establish the OIC Standing Committee on Science and Technology (COMSTECH), headed by the President of Pakistan, and was nominated as its Secretary General at the Casablanca Islamic Summit. Dr Kettani organized the first meetings of COMSTECH and planned its programmes until his term as IFSTAD Director

General was over in 1989. In 1986, he became Founding Fellow and Secretary General of the Amman-based Islamic Academy of Sciences (1986). He served as Secretary General, IAS, until he was elected Vice-President in 1994. He participated in IAS missions to Sarawak (Malaysia), the republics of Central Asia as well as to Sudan and Iran.

In the nineties, Dr Kettani founded the Ibn Rushd International Islamic University, Cordoba, Spain.

Prof. Kettani was a member of the Editorial Board of a number of international journals. Moreover, he was member of the governing board, International Federation of Institutes of Advanced Studies (IFIAS), Stockholm, Sweden; member, Energy Research Group, (ERG), Ottawa, Canada; member and chairman of the Project Selection Committee, SOLERAS US-Saudi program, 1979-1985; member of the Executive Committee of the Islamic Education, Science and Culture Organization (ISESCO), 1982-1986; member of the Arab Thought Forum, Amman, (Jordan); and member of the Royal Commission of Al - Albait University, Mafraq, Jordan, etc.

Cited in the international Who's Who of Intellectuals, he was author and co-author of about 12 books in English and Arabic, printed in the USA, England, Jordan, Lebanon and Saudi Arabia; and author of more than 200 articles in different areas, especially in energy problems.

Dr Kettani gave lectures at universities in five continents. He spoke Arabic, English, French, and Spanish, and was member of a number of science committees of a multitude of scientific conferences.

Dr Ali Kettani passed away in Cordoba (Spain) on 10 April 2001.



**Sinasi Ozsoylu
Honoured**

Prof. Sinasi Ozsoylu, Academy Fellow from Turkey and Professor of Pediatric Medicine at Fatih University in Ankara (Turkey), has recently been included in the 2000 Outstanding Scientists of the 20th Century (International Biographical Centre of Cambridge University, UK), and in 500 Leaders of Influence of the American Biographical Institute-Inc.

It is worth noting that Prof. Ozsoylu was chosen as an Honorary Member of the American Pediatric Society in 1993 and an Honorary Fellow of the American Academy of Pediatrics in 1995.

Prof. Ozsoylu was elected a Fellow of the Islamic Academy of Sciences in 1988.



Hamdan appointed President of the Arab Open University.

Prof. Mohammad Hamdan FIAS, has recently been appointed President of the soon to be formally launched Arab Open University.

The AOU will be launched with the support of the Arab Gulf Fund (AGFUND), and the patronage of HRH Prince Talal Ibn Abdulaziz Al-Saud.

A letter from Dr A S Majali, IAS President

السلام عليكم

Greetings from the IAS

An impressive feature of the scientists, technologists and academicians of the Islamic world is their concern for the welfare of the Ummah. Indeed their willingness to sacrifice their time and energy to help where help is needed, is rather renowned.

The same is true of the business community in the Islamic world. From activities like grants and awards to poor students to the outpouring of response for regional disasters to their outstanding work in helping the poor, the business community in our countries has proven time and again that it is involved in and committed to improving our world, locally and internationally.

We at the IAS would like to see more of our students given the chance to further their studies, to see more scientific visits and lectureships taking place and to help transfer knowledge from one country to another.

The Annual Fund campaign of the Islamic Academy of Sciences provides much needed income for the Waqf (Trust Fund) of the Academy, and thus enables the IAS to undertake more such activities. To be able to do this, we need your help.

Your gift, combined with the gifts of other benefactors throughout the world, can make a huge difference in the amount of money we can spend to support research projects, award grants and scholarships and undertake training programmes. Donations to our Fund have an immediate and tangible impact on our programmes, for the resources we have alone do not support the ambitious programme we aim to implement. In addition to providing for scholarships, gifts to the Annual Fund provide important support for research and scientific publications.

We all have a stake in the future of the IAS, and that depends on loyal envisioned supporters who can provide support to S&T activities. Your support will help us assist the brightest of our budding scientists to attain their postgraduate degrees. In addition, your support demonstrates your commitment in the eyes of external evaluators, NGOs, foundations, and others who are following our development or are considering their own gifts or donations to the IAS. Your gift- in any amount - can do that.

Please join us in trying to make a difference to the scientific future of our countries. Your financial contributions to our Trust Fund are welcome.

Yours sincerely

Prof. Abdel Salam Majali

President/ Islamic Academy of Sciences

EDITORIAL LETTER

Back to Basic Science

Interest in Information and Communications Technologies in Islamic countries and indeed internationally is reaching unprecedented levels. More and more people are 'logging in,' 'browsing the net,' and exchanging e-mails.

This interest, important and welcome as it may be, is beginning to generate a disinterest in the hearts and minds of many, especially the young, in Basic Sciences - often described as the back-bone of S&T advancement.

The IAS believes that interest in IT does not have to be at the expense of interest in Basic Sciences, for both are very important.

It is in this context that the IAS is launching its Culture of Science Initiative (CSI), to again generate the interest of people in science, and in particular Basic Sciences.

We know that our scientists are often discouraged when they see our inadequate scientific infrastructure and indeed the meager financial resources that are allocated to R&D. We know too that our young students are not keen to pursue basic science disciplines for fear of becoming school teachers, but we still feel that we need to pursue this mission and ultimately develop this culture of science that we ought to and deserve to have.

Moneef R Zou'bi

Director General/ Islamic of Science

(Continued from page 1)

In his message to the meeting, the President of the Islamic Republic of Pakistan and Patron of the Islamic Academy of Sciences Mr Mohammad Rafiq Tarar, emphasised that the twenty first century marked the dawn of a new era in human history which would be dominated by new discoveries such as the complete sequencing of the Human Genome.

President Tarar added that the Culture of Science Initiative that would be launched by the Islamic Academy of Sciences seemed a timely and appropriate activity, particularly as it encompassed the elements of science, culture and society.

The IAS Patron stated that Pakistan had always cherished its association with the Islamic Academy of Sciences, and noted the continuous co-operation between the IAS and COMSTECH as well as COMSATS, both of which organisations were based in Pakistan.

The president of Pakistan went on to say that he had repeatedly emphasised the need to provide financial support to scientific organisations so that they are enabled to effectively implement their programmes and achieve their objectives.

He concluded by expressing his hope that collaboration and co-operation between the various organisations active in S&T in the Islamic world would continue to grow in strength with the passage of time.

In his statement at the ceremony, Dr Abdul Salam Majali, President of the Islamic Academy of Sciences, firstly made a reference to the golden era in Islamic science which spanned for almost five centuries. A period which produced a number of renowned world-class scientists and thinkers. He added that it was important to get young people again interested in science and technology in the Islamic world through promoting and disseminating the culture of science and scientific thinking, based on the principle of caring and sharing for other cultures, while at the same time paying special attention to science.

Dr Majali went on to mention the gap that existed between industrialized and developing countries whose populations form the majority of our planet's inhabitants. He added that the gap in knowledge between the info-poor and info-rich countries must be bridged. It was time too he added to eradicate illiteracy in science, and bring science to

the main stream of development in developing countries. The IAS President went on to indicate that science, was in a crisis: a crisis of confidence, especially after the effects of globalization and economic openness started to show, indeed after these phenomena took over as the main generator of science.

He concluded that the Ummah needed to go back to being Ummat-ul-ilm or the Nation of Science by overcoming all its internal and regional difficulties and as a result of continuing to try hard to activate co-operation between its constituent countries.



In his introductory note, Moneef Zou'bi, Director General, IAS, mentioned that the culture of science initiative was a new programme adopted by the IAS to generate the interest of the general public, especially young students and females, in science. He added that the IAS hoped to use the help of its Fellows as well the leaders of the science community throughout the world in this task, so that a clearer understanding of science is established in the minds of people. That would in part be done through publications, TV programmes, the Internet as well as through seminars and conferences.

The Director General went on to say that the IAS is an international NGO that was established in 1986 in Amman (Jordan), following a conference in which 38 eminent Muslim scientists gathered to sign the first charter of the Academy. The founding conference was patronised by HRH Prince Hassan of Jordan as well as HE the President of the Islamic Republic of Pakistan.

The Academy serves as a consultative organisation of the Muslim Ummah and institutions of member states of the Organisation of the Islamic Conference (OIC), on matters related to science and

technology, the DG added. It initiates scientific and technological programmes and activities in science and technology, and encourages co-operation among research groups in the various Islamic countries on projects of common interest. The IAS also encourages and promotes research on major problems of importance facing Islamic countries and tries to identify future technologies of relevance for possible adoption and utilisation. It aims to formulate standards of scientific performance and attainment, and has a programme of awards and honours for outstanding scientific achievements

whether by individual scientists or institutions.

Since its establishment, the IAS has been active in many areas. It has organised a number of international conferences in a number of countries that addressed serious contemporary issues facing Islamic countries such as Food Security, S&T Policy, Technology Transfer, Environment and Development, Water, Science Education and more recently Information Technology, the DG added.

The Academy as well as acting as a policy development body also implements a number of other programmes including training, publication of policy documents, research papers and specialised books. The Academy also establishes linkages between S&T institutions in the various OIC member countries. The DG went on to say that the IAS has a standing IT programme that involves building and expanding its presence on the Internet to include information of use to the science community in the Islamic world.

The IAS also plans to make an all out effort to build up its endowment account so that it can make available more resources to scientific activities the DG concluded

The genome inspiration

*Dr Anwar Nasim**

The electronic and print media deserves to be highly commended for giving extensive coverage to the Human Genome Project in national newspapers providing both extensive technical details and highlighting the moral and ethical questions. The project took nearly ten years to complete and was truly international with the USA, UK, Japan, China, France and Germany playing leading roles.

The initial effort cost over two hundred billion dollars, thousands of scientists, 16 research centres, and has now led to the complete decoding of the three billion base pairs that carry the genetic information for human beings. The availability of this information helps to illustrate the significance of the Human Genome Project which has been compared to man's landing on the moon, splitting of the atom and inventing the periodic table of elements in nature. It is, however, really important to emphasise that whereas the landing on the moon was a one time achievement, the decoding of the book of life is going to lead to research in human biology focused on diseases for years to come.

Human struggle in coping with the challenges posed by such diseases as cancer, Alzheimer, diabetes and cardiovascular disorders has been going on for centuries. This new information will now become a historic milestone in the history of science and will have a major impact on future medical research.

Whereas in Pakistan it is a genuine excitement which we should share with the rest of the human race, an event of this nature raises serious questions about the relevance of this information to the developing world in general and Pakistan in particular. We should never ignore some of the realities that we are faced with a population of 135 million and a load of genetic diseases completely unknown since the health statistics for our population are very poorly documented. It is really important to take stock of our own situation. Will the Human Genome Project make any major impact in our

own society? Will this great human accomplishment draw the attention of our policy makers to the importance of scientific research and the profound impact it can have on our daily life?



Dr Anwar Nasim

This information will have serious and long term impact on the medical profession and the diagnosis, cure and prevention of diseases. Its special relevance in Pakistan should focus on those diseases which are prevalent in our own society. Since genome sequences of microbes causing infectious diseases has also become available, this is another area that merits special attention. There is absolutely no reason even to expect western researchers to specifically look for diagnosis or cure for diseases which are a major threat in the developing countries and therefore, it will be the duty of the researchers of these countries to assemble such data.

A similar rationale should prevail for achieving self-reliance in any field. It is indeed naive to expect that advanced nations will help us solve our national problems. The real question now is whether our medical doctors will pay due attention to the future potential and implications of this project.

There is a need for agricultural scientists to critically examine the current genomic sequences available for such crops as rice, wheat, maize and cotton. It

should indeed be a high priority for the Ministry of Science and Technology to set up a task force to address issues related to genomic research and develop effective national strategies to plan future research in this field. One obvious ingredient of such strategy will be the human resource development.

The major breakthroughs in molecular biology and genetic engineering have raised many serious legal, ethical and social questions. From the very beginning, the Human Genome Project assigned nearly 3 per cent of the total budget for a committee to examine the ethical, legal and social implications of the research. It is somewhat unfortunate that the Muslim world has never taken any serious initiative to put in place the infrastructure needed to address these questions.

All ethical, legal and social questions always need to be examined in the unique and highly specific social scenario of a society. The onus for this kind of in-depth analysis is upon our academicians, religious scholars and scientists. It is also important to appreciate that the required infrastructure for such dialogue and discussion is sadly lacking.

The questions raised for Europe and North America such as discrimination of insurance companies and employers based on genetic testing - though are important issues for them may not necessarily be the ones that deserve highest priority for us.

The socio-economic situation demands that in view of these breathtaking scientific developments the situation is examined in our own societies. Addressing these questions requires a continuing dialogue, debate and discussion between academicians, religious scholars and researchers within Pakistan and other Islamic countries. This however demands as a prerequisite an understanding of genetics which should become an integral part of our teaching programmes at all levels starting from high schools.

* Advisor (Science), COMSTECH, Fellow of the Islamic Academy of Sciences, Pakistan



The Islamic Organization for Medical Sciences

invites nominations for prizes to be awarded by

The Kuwait Foundation for the Advancement of Sciences

The Kuwait Foundation for the Advancement of Sciences (KFAS) has instituted two prizes to be awarded every alternate year to support and promote scientific research in the field of Islamic Medical Science in the following areas:

- 1- Medical Practice, addressing professional and well-documented clinical and laboratory experiments.
- 2- Appropriate documentation of Islamic Medical Heritage including Medical Islamic Jurisprudence.

Nomination for the prizes are subject to the following:

- 1- Documents submitted to KFAS should be original, published and academically significant in the field of Islamic Medical Sciences.
- 2- Nominations proposed by universities, scientific institutes, international organizations, individuals, past recipients of the prize and academic bodies are invited.
- 3- Closing date for acceptance of Nominations and/or Application including Nominee's Curriculum Vitae and all supportive documentation is Dec. 31, 2001.

Each prize consists of a cash sum of K.D. 6,000/- (U.S.\$ 20,000/- approx.), a KFAS shield and a certificate of recognition.

Winners will be invited to receive their prizes at a Prize Awarding Ceremony during the commencement of the Organization's Conference.

Mailing Address:

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P O Box 25263, Safat – 13113, Kuwait
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The Organization of Islamic Conference and Technological Co-operation (OIC) biennial prizes, which are intended to recognize contributions in Physics, Chemistry and Biology, it is requesting nominations in the

Nominations for the COMSTECH prizes are invited from academics, national research councils and internationally distinguished scientists. The Prize consists of a cash award of US\$ 10,000 and a certificate mentioning the recipient's major contribution.

Since these Awards will be given to recognize contributions and achievements of scientists, those scientists are nominated who have published extensively in the field and have an international reputation.

The nominations should clearly state the fields for which the Prize would be given. The nomination should be in the English language. A 1-2 page list of publications relevant to the Prize should be attached. The latest passport size colored photograph of the nominee should be attached. Nominations will be judged by the scientists appointed by Co-ordinator of the Prize.

There is no specific form for nomination. The relevant nomination papers must be submitted to the Co-ordinator of the Prize not later than 31 July 2001.

For enquiries, please contact:

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ice Standing Committee on Scientific (COMSTECH) announces the award of to encourage and support scientific Mathematics and Biology. **Presently fields of Biology and Chemistry.**

TH Prizes are invited from science is, universities, research institutions ntists in OIC member countries. Each US\$5000 and a personalized plaque tributions.

made on the basis of outstanding excellence, it is important that only ve achieved international recognition ding scientific journals of high

state the contributions made in the ven. Nominations must be submitted profile of the nominated individual, a ze, the biodata of the candidate and otograph should accompany the dged by committees of distinguished eneral COMSTECH.

nation. A covering letter along with reach COMSTECH Secretariat not

r Nasim
Science
Secretariat
on Avenue
abad-44000
tan
3 (3 lines)
9205264/9220265
sb.comsats.net.pk



IAS Ibrahim Memorial Award 2000/2001

Call for Nominations

The Islamic 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 Organistaion of the Islamic Conference (OIC) Countries.

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

IAS Ibrahim Memorial Award 2000/2001

- *Nominees for the Award would be young Muslim scientists working in the medical field.*
- *Nominations for the Award would be invited from non-governmental organisations, academies of sciences, etc... in the various OIC countries.*
- *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 the Awardee would be covered from the Award Fund and by the Academy.*
- *A token honorarium of would be presented to the Awardee.*

Contact IAS Secretariat further details

PO Box 830036, Amman 11183, Jordan
Telephone: (9626) 5522104 – Fax: (9626) 5511803
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(Continued from page 5)

In reviewing the achievements, it would be fair to put on record that man's landing on the moon in 1969 may have made some impact on our national policies in science. This recent astounding achievement will too draw the attention of our decision makers to the importance of biological sciences and the exciting discoveries that will be made in this field during the 21st Century. Dr James Watson, who discovered the DNA structure in 1953, has described this as an "inspirational experience" which could act to create an excitement leading to our involvement with such disciplines as cell biology and human genetics. So will we wake up and be shaken in a manner which will lead to the required emphasis on future research in biology?

One may end with a few quotes as a means of getting the current excitement across to the readership.

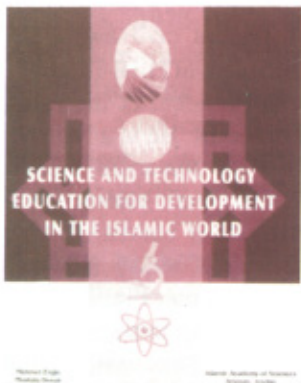
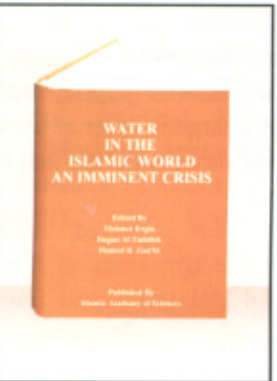
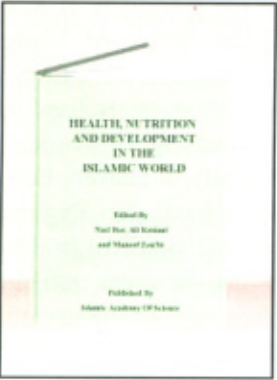
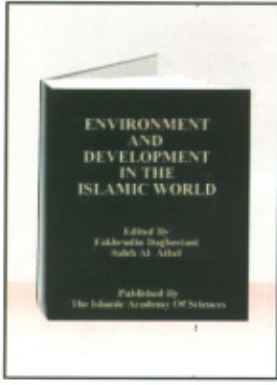
"Today we are learning the language in which God created life. We are gaining ever more awe for the complexity, the beauty, the wonder of God's most divine and sacred gift. It is conceivable that our children's children will know the word cancer only as a constellation of stars. Genetic knowledge must never be used to segregate, discriminate or invade privacy. We must all join hands in a global collaboration to establish an ethical, legal and moral framework for its use." – Bill Clinton, President, USA.

"The implications far surpassed even the discovery of antibiotics. It is the first great technological triumph of the 21st century. The role of science is to inquire and discover and it is the role of society and government on behalf of society to make judgments on what we then do and how we respond. I don't want to see science limited in its inquiry." – Tony Blair, Prime Minister, UK.

"Along with Bach's music, Shakespeare's sonnets and the Apollo space programme, the project was one of those achievements of the human spirit that makes me proud to be human." – Prof. Richard Dawkins, Oxford University

Publications of the Islamic Academy of Sciences

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	Conference Proceedings	Pages	Price	
1	<i>The Islamic Academy of Sciences</i> – Proceedings of the founding conference (1986) - Published by the Islamic Academy of Sciences, Editor: A Kettani (Morocco) .	Out of Stock	-----	
2	<i>Food Security in the Muslim World</i> -Proceedings of the first international conference, Amman (Jordan) (1987) - Published by the Islamic Academy of Sciences, Editor: S Qasem (Jordan) .	520	\$30	
3	<i>Science and Technology Policy for Self-Reliance in the Muslim World</i> - Proceedings of the second international conference, Islamabad (Pakistan) (1988) - Published by the Islamic Academy of Sciences , Editors: F Daghestani (Jordan), H El-Mulki (Jordan), M Al-Halqi (Jordan) .	453	\$30	
4	<i>New Technologies and Development of the Muslim World</i> -Proceedings of the third international conference, (Kuwait) (1989) - Published by the Islamic Academy of Sciences, Editors: F Daghestani (Jordan), S Qasem (Jordan) .	426	\$30	
5	<i>Technology Transfer for Development in the Muslim World</i> -Proceedings of the fourth international conference, Antalya (Turkey) (1990) - Published by the Islamic Academy of Sciences, Editors: F Daghestani (Jordan), A Altamemi (Jordan), M Ergin (Turkey) .	Out of Stock	-----	
6	<i>Science and Technology Manpower Development in the Islamic World</i> - Proceedings of the fifth international conference, Amman (Jordan) - (1991) - Published by the Islamic Academy of Sciences - Editors: F Daghestani (Jordan), A Altamemi (Jordan), H El-Mulki (Jordan) .	496	\$35	
7	<i>Environment and Development in the Islamic World</i> - Proceedings of the sixth international conference, Kuala Lumpur (Malaysia) (1992) - Published by the Islamic Academy of Sciences, Editors: S Al-Athel (Saudi Arabia), F Daghestani (Jordan), A Altamemi (Jordan) .	702	US \$ 30	
8	<i>Health, Nutrition and Development in the Islamic World</i> -Proceedings of the seventh international conference, Dakar (Senegal) (1993) - Published by the Islamic Academy of Sciences – Editors: N Bor (Turkey), A Kettani (Morocco), M R Zou'bi (Jordan) .	320	US \$ 30	
9	<i>Water in the Islamic World: An Imminent Crisis</i> - Proceedings of the eighth international conference, Khartoum (Sudan) (1994) - Published by the Islamic Academy of Sciences, Editors: M Ergin (Turkey), H Dogan Altinbilek (Turkey), M R Zou'bi (Jordan) .	544	US \$ 30	
10	<i>Science and Technology Education for Development in the Islamic World</i> - Proceedings of the ninth international conference, Tehran (Iran) (1999)- Published by the Islamic Academy of Sciences, Editors: M Ergin (Turkey), M Doruk (Turkey), M R Zou'bi (Jordan) (ISBN 9957-412-00-7) .	525	US \$ 30	



الأكاديمية الإسلامية للعلوم

الأكاديمية الإسلامية للعلوم مؤسسة مستقلة، غير سياسية، غير حكومية، وغير ربحية، تضم زملاء (أعضاء) مؤسسون ومنتخبون يمثلون المجتمع العلمي الإسلامي المبدع في شتى مناطق ودول العالم، وتهدف الأكاديمية إلى الارتقاء بمناخ العلوم والتكنولوجيا المختلفة في العالم الإسلامي.

جاء تأسيس الأكاديمية بناء على توصية تقدمت بها اللجنة الدائمة للتعاون العلمي والتكنولوجي (COMSTEC) إلى مؤتمر القمة الإسلامي الرابع، الذي عقد في الدار البيضاء عام ١٩٨٤، 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) ١٩٨٦، بمشاركة شخصيات بارزة من دول إسلامية مختلفة تمت دعوتهم من قبل المؤسسات المنظمة للمؤتمر ليكونوا زملاء مؤسسين للأكاديمية.

أما الأهداف الرئيسية للأكاديمية فهي:

- تقديم النصيحة والمشورة 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 الملانمة لغايات تبنيها واستخدامها؛
- صياغة مقاييس للإنجاز والتحصيل العلمي، ومنح الجوائز والأوسمة للإنجازات العلمية المتميزة، بغية تطوير مراكز الإبداع في فروع العلوم المختلفة وتحفيز المبدعين.

نشرة الأكاديمية الإسلامية للعلوم

نشرة دورية تصدرها الأمانة العامة للأكاديمية الإسلامية للعلوم، عمان، الأردن.

رئيس التحرير: المهندس منيف رافع الزعبي، مدير عام الأكاديمية الإسلامية للعلوم.

مساعد التحرير: ليلى جلال، مسؤول برامج.

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

العنوان

١٧ شارع جيبوتي - الدوار السادس

تلفون: ٥٥٢٣٣٨٥، ٥٥٢٢١٠٤

فاكس: ٩٦٢-٦-٥٥١١٨٠٣

العنوان البريدي

الأكاديمية الإسلامية للعلوم

ص. ب. ٨٣٠٠٣٦

عمان ١١١٨٣

المملكة الأردنية الهاشمية.

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Professor Naim Afgan

Professor Naim Afgan was born in the town of Banja Luka on 15 June 1929.

He graduated from the University of Zagreb in 1956 as a Mechanical Engineer. He obtained his Doctorate of Technical Sciences from the Electrical Engineering Faculty in 1966 from the University of Belgrade.

Prof. Afgan has been a member of Academy of Sciences and Arts of Bosnia Herzegovina since 1989.

He was Scientific Adviser at the Nuclear Science Institute (Vinca), Belgrade, Yugoslavia, in the field of Heat and Mass Transfer, Energy Engineering and Nuclear Technologies (1965-1991); Director of the Association of Yugoslav Nuclear Sciences Institutes, Belgrade, Yugoslavia, Professor at Mechanical Engineering, Faculty, University of Zagreb, Zagreb, Croatia; and Chair on Energy Engineering (1980-1993).

He was invited to become a visiting professor at the Technical University of Lisbon, Portugal, as a UNESCO Chair Holder (1993).

Dr Afgan is a member of the Scientific Council of the International Center for Heat and Mass Transfer, 1968-present, Ankara, Turkey; member of the Editorial Advisory Board of the International Journal of Experimental Heat, Transfer, Thermodynamics and Fluid Mechanics, published by Elsevier Science Inc. (1986-present). Prof. Afgan was a member of the editorial board of Nuclear Europe (the Journal of the European Nuclear Association) (1982-1990); member of the Scientific Advisory Board of the Journal of the French Society of Heat Engineers (1974-1990).

He was elected a Fellow of the Islamic Academy of Sciences in 2000.



Professor Attia Ashour

Attia Abdel Salam Ashour was born in Damietta (Egypt) on 13 September 1924. He obtained his BSc in Mathematics from Cairo University in 1944, DIC (1948), PhD (1948), DSc (1967), all from London University.

He successively became Lecturer, Senior Lecturer, Assistant Professor and Professor of Applied Mathematics, Faculty of Science, Cairo University, 1948-1984. He was Head of the Mathematics Department, Faculty of Science, Cairo University; 1959-1960, 1965-1969, 1971-1976 and 1980-1984.

Prof. Ashour was appointed Professor Emeritus of Applied Mathematics, Cairo University, in 1984.

Prof. Ashour was an external examiner for BSc examinations (Mathematics) and PhD theses (Mathematics and Physics) at several British, Indian and Nigerian Universities.

He was Director of the Advanced Schools on the Physics of the Earth, International Centre of Theoretical Physics, Trieste, Italy, 1977, 1980, 1994, and visiting professor, Institute of Geophysics, Potsdam, GDR, 1969, 1980 (on the invitation of the GDR Academy of Sciences).

Prof. Ashour is past president of the Mathematical and Physical Society of Egypt. He is a member of the Egyptian Mathematical Society, the Egyptian Academy of Sciences, the Egyptian Geophysical Society, the "Institute d'Egypte," and the Egyptian Academy of the Arab Language (1990).

Prof. Ashour is a Member of the Editorial Boards of Africa Mathematica and the Arab Journal of Mathematics and the Journal of Geophysics.

He has been a Fellow of the Royal Astronomical Society (RAS) since 1954.



Professor Abdul Qadeer Khan

Dr Abdul Quadeer Khan obtained his BSc in 1960 from the University of Karachi. He obtained the degree of Master of Science (Technology) in 1967 from Delft Technological University, Holland, and a Doctor of Engineering Degree in 1972 from the University of Leuven, Belgium. In 1976, he joined the Engineering Research Laboratories (ERL) in Pakistan and set up an uranium enrichment industrial plant. As a tribute to his services to Pakistan, during May 1981, the then President of Pakistan, General Zia-ul-Haq renamed the Engineering Research Laboratories, Kahuta, as, Dr Abdul Quadeer Khan Research Laboratories (KRL).

A Q Khan has published more than 200 scientific research papers, and has been editor of a large number of books on metallurgy, advanced materials and phase transformation.

Dr Khan has received honorary degrees from the University of Karachi, Baqai Medical University, and from the University of Engineering and Technology, Lahore. For his contributions in the field of science and technology, the President of Pakistan conferred upon Dr Khan the award of Nishan-i-Imtiaz in 1996 and 1998, the only Pakistani to have received this highest civil award twice. He is also a recipient of Hilal-i-Imtiaz.

Dr Khan is President of the Pakistan Academy of Sciences. He is a Member of the Institute of Materials, London; American Society of Metals (ASM); Canadian Institute of Metals (CIM) and the Japan Institute of Metals (JIM). Prof. A Q Khan sits on the Boards of Governors of Hamdard University; Quaid-i-Azam University, Islamabad; and the International Islamic University, Islamabad.



Prof. Syed Qasem Mehdi

Prof. Syed Qasem Mehdi is the Director General, Biomedical and Genetic Engineering Division, A Q Khan Research Laboratory, Islamabad, Pakistan. He was born on 13 February 1941.

Dr Mehdi was awarded his PhD in Biochemistry from the University of Oxford, UK, 1969. Prior to that, he did his MSc at the Massachusetts Institute of Technology (MIT), USA, 1966. He got his first degree from Lucknow University, India, 1963, in Biochemistry.

From 1986 to 1991 Dr Mehdi was Head, National Institute for Biotechnology and Genetic Engineering, Biomedical Division, Lahore, Pakistan. 1980-1992, Director (Scientific), The Alexander Medical Foundation, CA, USA. 1980-1986, Senior Research Fellow and Research Professor, Departments of Chemistry and Radiology, Cancer Biology Research Labs, Stanford University. 1976-1980, Senior Research Associate, Department of Radiology, Nuclear Medicine Division, Stanford University.

Dr Mehdi was a Research Fellow at Oxford University, UK, 1970-1972. He is Member/Fellow of the Biochemical Society (UK, 1972-1997); Oxford Union Society (life member); Oxford-Cambridge Society; American Society for Human Genetics; American Assoc. for the Advancement of Science; Fellow, National Academy of Medical Sciences-Pakistan; Fellow, Third World Academy of Sciences; Fellow, Pakistan Academy of Sciences. Prof. Mehdi has published well over 120 research papers, of which many were published in international journals. He was elected a Fellow of the Islamic Academy of Sciences in 2000.

Islamic 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 Academy of Sciences IAS was recommended by the Organisation of Islamic Conference; OIC 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 graciously hosts the IAS at Amman where the headquarters of the Academy started functioning in April 1987.

The main objectives of the Academy are:

- *To serve as a consultative organisation 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 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.*

IAS Newsletter

Published in English by the Secretariat of the Islamic Academy of Sciences, Amman, Jordan.

Chief Editor: Moneef R Zou'bi, Director General, IAS.

Editorial Assistant: Lina Jalal, Programme Officer, IAS.

The Editorial Board welcomes all articles, particularly short ones, and would consider the appropriateness of any material submitted for publication in accordance with IAS's own regulations.

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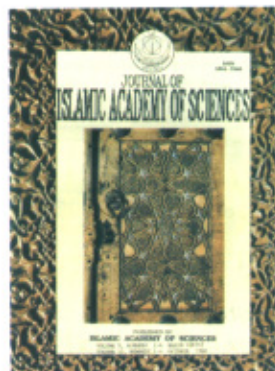
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IAS - N25 - 01



New issue of IAS Journal on the Web

The Journal of the Islamic Academy of Sciences was originally launched as a general science journal catering for scientists and researchers throughout the world. Over the years, it was noted that the number of medical papers submitted to the Journal far exceeded the number of papers in any other discipline. That encouraged the Council of the Academy to re-launch the Journal as a specialised medical publication. Prof. Naci Bor, Chief Editor of the Journal has managed to smoothly achieve this objective in 2000.

The Journal, which carries an ISSN 1016-3360, is supported by Dr Enver Oren, Hon. FIAS, who offered to have the Journal printed at his company's printing press and provide the paper.

The Academy had previously launched the Internet-based version of the Journal under the Internet Address of (<http://www.islamicmedicine.com>).

The site is both elegant and informative, and its presence on the Internet represents a qualitative leap forward for the Academy, and its Journal.

The current issue of the Journal that appears on the web is Volume 11, Number 4. It contains five major articles: a Biochemistry paper by Rafi and Naghily; a Neurosurgery article by Yusof, Jafri, Abdullah and Isa; a Nuclear Medicine article by Ilyas, Haider, Saeeda, Javed, Shams and Sameera; a Parasitology article by El-Shaikh, Gabry and Yousief as well as a Psychiatry article by Assadulahi and Ghassemi.

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

Muslim Scholars



YAQUB IBN ISHAQ AL-KINDI (800-873 AD)

Abu Yousuf Yaqub Ibn Ishaq al-Kindi was born at Kufa around 800 AD. His father was an official of Haroon al-Rashid. Al-Kindi was a contemporary of al-Mamun, al-Mu'tasim and al-Mutawakkil and flourished largely at Baghdad. He was formally employed by Mutawakkil as a calligrapher. He died in 873 AD during the reign of al-Mu'tamid.

Al-Kindi was a philosopher, mathematician, physicist, astronomer, physician, geographer and even an expert in music. Because of his work he became known as the philosopher of the Arabs.

In mathematics, he wrote four books on the number system and laid the foundation of a large part of modern arithmetic. There is no doubt that the Arabic system of numerals was largely developed by al-Khawarizmi, but al-Kindi also made rich contributions to it. He also contributed to spherical geometry to assist him in astronomical studies.

In chemistry, he opposed the idea that base metals can be converted to precious metals. In physics, he made rich contributions to geometrical optics and wrote a book on the subject. This book later on provided guidance and inspiration to such eminent scientists as Roger Bacon.

In medicine, his chief contribution comprises the fact that he was the first to systematically determine the doses to be administered of all the drugs known at his time.

He was a prolific writer: the total number of books written by him was 241, the prominent among which were divided as follows:

Astronomy 16, Arithmetic 11, Geometry 32, Medicine 22, Physics 12, Philosophy 22, Logic 9, Psychology 5, and Music 7.

In addition, various monographs written by him concern tides, astronomical instruments, rocks, precious stones, etc. He was also an early translator of Greek works into Arabic, but this fact has largely been over-shadowed by his numerous original writings. He was known as Alkindus in Latin and a large number of his books were translated into Latin by Gherard of Cremona. His books that were translated into Latin during the Middle Ages comprise *Risalat dar Tanjim*, *Ikhtiyarat al-Ayyam*, *Ilahyate-e-Aristu*, *al-Mosiq*, *Mad-wa-Jazr*, and *Adwiya Murakkaba*.

Al-Kindi's influence on development of science and philosophy was significant in the revival of sciences in that period. In the Middle Ages, Cardano considered him as one of the twelve greatest minds.

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

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