

# ISLAMIC ACADEMY OF SCIENCES Newsletter



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*His Majesty King Abdullah II*

## IAS receives Jordan Grant

The Academy has recently received the annual grant of the Hashemite Kingdom of Jordan for 2000.

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 which has often been reiterated at the various OIC meetings.

It is worth noting that Jordan is one of the few 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.



*His Highness the Emir of Qatar*

## Qatar supports IAS Waqf

A delegation representing the Islamic Academy of Sciences headed by Prof. A S Majali, IAS President, recently paid a visit to Doha (Qatar).

The delegation was received by H E Sheikh Hamad Ibn Jassem Ibn Jabr Al-Thani, the Qatari Foreign Minister. As the State of Qatar is designated to take over the chairmanship of the Organisation of the Islamic Conference (OIC) by the end of 2000, the meeting focussed on the role that can be played by the IAS in particular and the OIC in general to activate co-operation between OIC member countries in all areas including science and technology.

At the conclusion of the meeting, the Qatari Foreign Minister pledged his support to the IAS and its activities and instructed that a donation be made to the Waqf of the Academy to enable it to undertake a number of scientific programmes.

He further extended an invitation to Prof. Majali, IAS President, to take part in the forthcoming Summit of OIC heads of states to be convened in Doha later on in the year.

## Tunisia host for Tenth IAS Conference on IT

The Islamic Academy of Sciences has recently received the formal invitation of the Republic of Tunisia to host the IAS Conference 2000.

The conference, the tenth to be convened by the IAS, will be patronised by His Excellency the President of the Republic of Tunisia, and will have the general title of "Information Technology for Development in the Islamic world."

The date agreed with the Tunisian authorities for this event has been set for 20-24 November 2000.

The conference is designed to be an open activity in which local academics, scientists as well as university students will be encouraged to participate. It will be divided up into general sessions as well as specialised symposia covering a number of specific topics from an IT viewpoint.

Contact by the Academy Secretariat has already been established with organisations such as the ISESCO and the UNESCO, as well as the Islamic Development Bank and the COMSTECH, so that they would join in this international academic effort and contribute academically and financially towards its realisation.

Prof. Ahmad Marrakchi FIAS, as well as Prof. Zohra Benlakhdar FIAS as Prof. Rafik Boukhris FIAS, Academy Fellows from Tunisia have been assigned by the IAS the responsibility of liaising scientific and logistical matters with host country.



*Prof. Ahmad Marrakchi FIAS*



# A Profile of a World-class Scientist

## Dr Ahmed H. Zewail \*

Dr Ahmed H. Zewail may have been thinking big when he and his team at the California Institute of Technology (Caltech) were devising techniques for viewing atoms coming together in real time, but it was something small - the smallest time unit known to man, in fact - that won him the 1999 Nobel Prize in Chemistry for his work in the field of Femtochemistry.

Ahmed Zewail, a native of Egypt, is Linus Pauling Professor of Chemical Physics and professor of physics at the California Institute of Technology. He is internationally recognized for his efforts in a field he pioneered known as Femtochemistry.

Femtochemistry is concerned with the time resolution of the most elementary motions of atoms during the chemical change-bond breaking and bond making-on the femtosecond time scale (a femtosecond is  $10^{-15}$  of a second). Using pulsed lasers, Zewail and his group have devised techniques for catching atoms in the act of coming together and reacting to form molecules, whereas before, scientists were unable to study such ultrafast events directly.

The Royal Swedish Academy cited Zewail "for showing that it is possible with rapid laser technique to see how atoms in a molecule move during a chemical reaction." Because reactions can take place in a millionth of a billionth of a second, Zewail's research has, with state-of-the-art lasers, made it possible to observe and study this motion for the first time, thus allowing scientists to probe nature at its fundamental level.

The field has had wide-ranging impact on chemistry and photobiology all over the world.

"Professor Zewail's contributions have brought about a revolution in chemistry and adjacent sciences, since this type of investigation allows us to understand and predict important reactions," the Royal Swedish Academy announced in the citation.

Born 26 February 1946, in Egypt, he has a family of four children and is married to Dema Zewail. He received both his bachelor's and his master's degrees from Alexandria University. He earned his doctorate from the University of Pennsylvania in 1974

and joined the Caltech faculty in 1976 after two years as an IBM Fellow at the University of California at Berkeley.



Dr Ahmad H Zewail

Among his national prizes are many from the American Chemical Society, including the Harrison-Howe Award, the Peter Debye Award, the E. Bright Wilson Award, and the Buck-Whitney Award. The American Physical Society has honoured Dr. Zewail with the Earle K. Plyler Prize and the Herbert P. Broida Prize. He has also received the Chemical Sciences Award from the National Academy of Sciences. In 1995, the president of Egypt, H. Mubarak, honoured Dr. Zewail with the Order of Merit, First Class.

Zewail was appointed to the faculty at Caltech in 1976. In two years he was tenured, in 1982 became a full professor, and in 1990 was honoured by the first Linus Pauling Chair at Caltech.

Zewail holds honorary degrees from the American University (Cairo), Oxford University (UK), Katholieke University (Leuven, Belgium), University of Pennsylvania (USA), Universite de Lausanne (Switzerland), and Swinburne University (Australia). He gave more than one hundred named and plenary lectures, and he has been named the John van Geuns Stichting Professor at University of Amsterdam, Rolf Sammet Professor at Johann Wolfgang Goethe University, Christensen Professorial Fellow at Oxford, and Röntgen Professor at the University of Würzburg. He served as Visiting Professor at the University of Bordeaux, Ecole Normale Supérieure,

University of California, Los Angeles, American University, Cairo, Texas A&M, University of Iowa, College de France, and Katholieke Universiteit, Leuven, Belgium.

For his contributions he has been widely recognised with honours which include: the Nobel Prize, the Robert A. Welch Prize Award, Wolf Prize, King Faisal Prize, Benjamin Franklin Medal, Leonardo Da Vinci Award of Excellence, Röntgen Prize, Paul Karrer Gold Medal, Bonner Chemiepreis, Medal of the Royal Netherlands Academy of Arts and Sciences, Carl Zeiss Award, Hoechst Award, and the Alexander von Humboldt Award. From the American Physical Society, he was awarded the Herbert P. Broida Prize and the Earle K. Plyler Prize, and from the American Chemical Society, the Richard C. Tolman Medal Award, Nichols Medal, Linus Pauling Medal, E. Bright Wilson Award, Peter Debye Award, Nobel Laureate Signature Award, Harrison-Howe Award, and the Buck-Whitney Medal. From the National Academy of Sciences, the Chemical Sciences Award, from Yale University, the J. G. Kirkwood Award, and from the US Government, the E. O. Lawrence Award. He was Alfred P. Sloan fellow, Camille and Henry Dreyfus Teacher-Scholar, and John Simon Guggenheim fellow. In 1995 he received the Order of Merit, first class, from President Mubarak and in 1998 a Postage Stamp, with Portrait, was issued by Egypt.

Zewail is a member of the National Academy of Sciences (USA), American Academy of Arts and Sciences, American Philosophical Society, Third World Academy of Sciences (Italy), European Academy of Arts, Sciences and Humanities (France), and fellow of the American Physical Society and Sigma Xi Society. He is a member of the Pontifical Academy of Sciences.

His scientific family over the past 20 years consists of some 150 post-doctoral research fellows, graduate students and visiting associates. He lives in San Marino, California.

\*Taken from various publications by the California Institute of Technology.



## Potash Company Donation received

The Arab Potash Company, a multi-interest industrial firm based in Jordan, has recently made a contribution to the activities and programmes budget of the Academy.

The APC is one of Jordan's top companies that in 1999 achieved record sales of US\$192.3 million, and profits of around US\$44.2 million.

The President and the Council of the Academy expressed their thanks and appreciation to the APC through a letter sent to H E Dr Saleh Irshaidat, APC's Board Chairman.

The grant has been allocated to the IT and publications budget of the Islamic Academy of Sciences.

## Donation received from entrepreneur Awni Shaker

Mr Awni Shaker, Founder of Petra Private University has recently made a contribution to the programs budget of the IAS.

The President and Director General of the IAS communicated their thanks to Mr Shaker and expressed their appreciation of his interest in the programs of the Academy.

## IAS Supports Antimicrobial Symposium

The First Arab Symposium on Antimicrobial Drugs was held at the Department of Pathology-Microbiology and Forensic Medicine, Faculty of Medicine, University of Jordan, 3-4 May 2000, with the participation of over 60 participants representing a number of organisations and countries. The IAS was among the organisations that sponsored this important activity.

A total of 39 scientific papers were presented in the 2-day event. These included such titles as "Antimicrobial Therapy of Respiratory Tract Infections," and "The impact of Candida Isolates in Pulmonary Infections."

The IAS is always eager to support activities of this nature that contributes to the building up of national capacities in the various OIC countries.

## An open letter by Dr A S Majali, IAS President

### Dear Friend of the Islamic Academy of Sciences

Science institutions in most developing countries often face a shortage of funds that hinders their progress and their ability to realise more of their objectives. The IAS as you are aware is no exception as far as this matter is concerned.

A fund-raising effort initiated by the Council and Secretariat has been underway for some time now with some success but still a lot more needs to be done with the active participation of all IAS Fellows and friends to actually achieve financial security for the Academy.

The Academy needs to have all its eminent Fellows, friends and supporters use their good offices in their countries and on the international arena to secure funds for the IAS and its various activities.

We would therefore urge you to take some time to provide us with the following information:

- (a) Names and addresses of possible donors (individuals and organisations) in your country and internationally;
- (b) Mode of contact that you prefer for getting in touch with such benefactors;
- (c) Possibility of inducing some of these individual benefactors as Honorary Fellows; and
- (d) Possibility of associating some of the donor agencies with the Academy as "Friends" of the Academy for example.

Your response to the above points will be highly appreciated.

Yours sincerely

Prof. Abdel Salam Majali

President /Islamic Academy of Sciences



## EDITORIAL LETTER

### Information Technology: Why?

The World is living a science-based information revolution which is influencing the scientific, cultural, social, commercial and moral aspects of our lives, and which all developing countries need to be part of.

The last few years have witnessed a surge in the development, use and application of information technology (IT) in the various fields. The advent of the Internet has given a new meaning to the phrase, "The world at one's fingertips." Exchange of digital data and mail between users hundreds of miles apart has become a reality, and accessing gigantic data banks from a personal computer at home and a telephone connection has become as easy as picking a book off a shelf.

The IAS has developed a tradition of addressing contemporary issues that influence Islamic countries and in this context has adopted the theme of Information Technology (IT) as its main area of study in 2000.

The conference that the IAS will organise on the subject will, in part, appraise scientific and theoretical aspects related to IT as well as addressing the technology or application aspects of the subject. This modality will enable the participants, who will be representing many countries, to get first hand experience of the application aspect of IT, and 'disseminate' it in their countries.

The objectives of the conference are to study and appraise some contemporary (theoretical and practical) concepts in Information Technology with the aim of disseminating them through national development policies in OIC and developing countries; to assess the status of Information Technology application in the Islamic World, with particular reference to countries with extensive and limited experience in this field; to study the impact of developments in IT on the fields of medicine, agriculture and the environment, engineering science and education; and to facilitate the free exchange of views among experts on Information Technology policies.



# Science Development in Azerbaijan

**FARAMAZ MAKSUDOV FIAS**

*President, Azerbaijan Academy of Sciences*

Azerbaijan is an ancient country that made a great contribution to the formation and development of material and spiritual culture of the East, Islamic world and mankind.

Numerous scientific sources and memorials of culture are witness that in ancient Azerbaijan mathematics, astronomy, medicine, philosophy and other natural and public sciences were well developed. Science was always an integral part of general development of our country.

As one of the centres of global culture, Azerbaijan gave the world many scientists who enriched world culture and science. We are proud of our science and culture created by our genius ancestors.

Azerbaijan Republic possesses high scientific-technical potential. Over 30,000 scientists and specialists work in 123 scientific-research organisations. More than 1500 of them are doctors of sciences and about 10 thousand of them are candidates of science.

Azerbaijan Academy of Sciences is the base of Azerbaijani science. It was established in 1945. From the first days of its establishment, the Academy became a centre of scientific researches aimed at the study and use of the natural resources of Azerbaijan. All major scientific achievements and new fields of study originated in Azerbaijan are related to the Academy of Sciences.

Today, over 8000 employees work at the Academy of Sciences, about half of this number are scientific researchers, among them 500 doctors of science and about 2000 candidates of science, 34 academicians and 53 correspondent-members of the Academy of Sciences.

The main objective of the Academy of Sciences is to undertake fundamental researches in major areas of natural, technical and social sciences. Our Academy of Sciences includes 6 divisions: physical-technical and mathematical sciences, chemistry, earth sciences, biology, social sciences, literature, language

and arts. Scientific researches are carried out in scientific-research institutes. 34 institutes are functioning in our Academy, in its 6 divisions, 10 design and process bureaus and 2 experimental plants and regional centres.

Now, scientific studies in our republic are carried out in the whole spectrum of fundamental sciences including the areas of mathematics, mechanics, physics, chemistry, geology, information science, biology, public and humanitarian sciences. Scientists of Azerbaijan made large contributions in the development of mineral resources of the country. Azerbaijan Academy of Sciences is also the major centre for training doctors and candidates of science.



Investigations in the area of mathematics, mechanics and physics in Azerbaijan are also carried out at a high level. Our specialists in mathematics and mechanics obtained various important results in the area of functional analysis, in particular, spectral theory of operators, theory of differential equations, constructive theory of functions, mechanics of deformed solids and polymers. Our physicists work predominantly on semi-conductors. They prepare new materials with predetermined properties. On the base of these materials, effective converters have been made. Development of quantum electronics promoted the creation of new branches in industry.

Investigations in the field of cybernetics are connected with basic

research and mathematical methods in computer techniques, oil production, oil refining and petrochemistry. The world scientific community knows very well the achievements of Azerbaijan astronomist in the field of photosphere stars and halactics.

Based on studies related to development of oil and gas fields, petroleum geology developed as an independent science. Our country by right is regarded as the motherland of oil-field geology, geophysics and offshore geophysical surveys. Our country became a world pioneer in the offshore hydrocarbon production (in the Caspian Sea) owing to the achievements of our scientists in these areas. Methods of drilling and operation of oil and gas fields proposed by our scientists were applied not only in Azerbaijan, but also outside.

Research and development of Azerbaijani scientists in the areas of petroleum refining and petrochemistry became a foundation for a wide development of respective industrial spheres.

Azerbaijan is also a pioneer in catalytic reforming and petroleum crude cracking. Valuable investigations of scientists, which have enriched petroleum science, made Azerbaijan one of the centres of chemistry and refining. It is not surprising that Azerbaijan got the name of the "Oil Academy."

One of the most important areas of activity of our scientists is the area of developments in the fields of biology, agricultural and medicinal sciences. Owing to researches of botanists and zoologists, the extremely rich and diversified nature of Azerbaijan has been studied. This allowed us to use natural resources of the country more effectively, to improve fertility of arable lands and to provide the growing population with food products.

Researches in the field of history, philosophy, archaeology, ethnography, economics, demography, human rights, international relations, religious



and Islam are carried out and have all given important results.

Work on the preparation of fundamental dictionaries with comments, monographs on classic literary works, scientific-critical publications, and folklore anthologies also played an important role in self-establishment of the Azerbaijan people as a nation.

Development of science in any country eventually becomes the property of the whole civilisation. That is why, in the course of the formation of a sovereign state, the activity of scientific centres is important not only in the country but also outside it. At present, the Academy of Sciences of Azerbaijan, higher educational institutions and other scientific centres in the country have agreements on scientific-technical co-operation and joint researches with many countries.

It is enough to mention that only during 1993-99 more than 2000 scientists participated in scientific congresses, conferences and symposia in many Islamic countries - Iran, Turkey, Yemen, Saudi Arabia, Egypt, Pakistan, etc. During these years, the Academy of Sciences of Azerbaijan was elected a member of many authoritative organisations, concluded agreements on scientific-technical co-operation with a number of scientific societies. A special place among these is occupied by a Memorandum on scientific-technical co-operation signed in 1992 with Islamic Academy of Sciences. After signing this Memorandum, scientific relations between scientific institutions of the Azerbaijan Academy of Sciences and the Islamic Academy of Sciences were formed and our objective is to extend and strengthen these relations. Favourable conditions have been created in our country for this.

This co-operation could develop in several areas.

*The first area* - joint researches in the various spheres of fundamental science, ecology, information technology, plant growing and cattle-breeding, forestry, etc. Although examples of such researches are still few, they must develop.

*The second area* - symposia and conferences on important scientific issues, organisation of anniversaries and scientific sessions devoted to outstanding personalities of the Islamic world.

*The third area* - exchange of scientists and teachers for certain periods.

*The fourth area* - training of specialists on those disciplines which are needed in a specific country.

*The fifth area* - publication of scientific papers in languages of our countries and publication of joint papers addressing most interesting problems.

*The sixth area* - exchange of journals and books.

The Academy of Sciences of Azerbaijan already has experience in teaching in accordance with demand in oriental countries, especially countries of the Islamic world. Likeness in mentality, traditions and habits of people of these countries allowed us to organise teaching programmes for citizens of Iran, Turkey, Kuwait, Sudan, Jordan and Yemen on various disciplines, at post-graduate and post-doctorate courses of the Azerbaijan Academy of Sciences. In the Azerbaijan Academy of Sciences, there exists a Council of Islamic Studies where scientific degrees are awarded. To-day dozens of our scientists successfully work in universities and scientific centres of the Islamic Countries, passing their experience to colleagues and students.

It should be noted that recently, the problem of Islam and related issues is in the focus of attention of scientists and specialists of our Academy. In this context we must remind you of our international symposium "Islamic Civilisation in the Caucasus" which was organised in our Academy in December 1998.

Recently, the Presidents of Transcaucasian Republics met in Tbilisi (Georgia) and approved the joint research programme. The important role of the Azerbaijan Sciences was underlined there once more.

Our country is in a period of transition and faces a number of difficulties that could be solved due to scientifically justified, competent, purposeful and steady internal and foreign policy. The President of the Azerbaijan Republic, Heydar Aliyev is an initiator and inspirer of these processes in our Republic. Our scientists, as all Azerbaijani people are deeply confident that with a leader of an international level, our country will reach new heights in its development.



**Prof. Atta-ur-Rahman appointed Minister**

Prof. Atta-ur-Rahman FIAS, Co-ordinator General, COMSTECH, and Director of HEJ Research Institute of Chemistry has recently been appointed Minister of Science and Technology, Government of Pakistan.

An elected Fellow of the Islamic Academy of Sciences since 1988, Prof. Rahman obtained his BSc in Chemistry from Karachi University in 1963, MSc in Organic Chemistry, Karachi University (1967) and PhD in Organic Chemistry from Cambridge University (UK) in 1968. Cambridge University awarded him a doctor of science (ScD) in 1987.

Prof. Rahman has over 488 publications and 9 patents to his credit comprising 52 books published by major US and European Publishers as well as 59 Chapters in books and in leading international journals in several fields of organic chemistry. He was ranked top scientist of Pakistan in the discipline of Chemistry in 1999, based on the evaluation of his published works.

He was the first recipient of the award of "Scientist of the Year" (for 1985) conferred by the Government of Pakistan in 1987, and was awarded the "Islamic Organisation Prize" on behalf of the Kuwait Foundation for the Advancement of Science in 1987. He has also received the First Khwarazmi Prize, Iran (1993), and the Award of the Federation of Asian Chemical Societies, Japan (1997). Prof. Atta-ur-Rahman has been awarded the UNESCO Science Prize (1999).

He has won three Civil Awards (Hilal-e-Imtiaz, Sitara-e-Imtiaz and Tamgha-e-Imtiaz) and was also the President of the Chemical Society of Pakistan.

Apart from being a Fellow of the IAS (1988), Prof. Rahman is also a Fellow of the Pakistan Academy of Sciences (1982).





**Prof. Jamal Nazrul-Islam FIAS**

Born in Jhenidah, Jessore Bangladesh on 24 February 1939. Educated at Trinity College, Cambridge. PhD, Department of Applied Mathematics and Theoretical Physics, University of Cambridge, 1964; DSc, University of Cambridge, 1982. Postdoctoral Fellow Department of Physics and Astronomy, University of Maryland 1963-1965; Visiting Associate in Physics, California Institute of Technology, 1971-1972; Senior Research Associate Department of Astronomy, University of Washington, 1972-1973; Lecturer in Applied Mathematics, King's College London, 1973-1974; Lecturer and Reader, Department of Mathematics, The City University, London, 1978-1984; Professor of Mathematics, University of Chittagong, Bangladesh.

Awards: Gold Medal of Bangladesh Academy of Sciences for Physical Sciences (Senior Group), 1985.

Fellow of Third World Academy of Science Trieste 1985, Cambridge Philosophical Society; Royal Astronomical Society and Bangladesh Academy of Sciences. Prof. Nazrul-Islam is an elected Fellow of the Islamic Academy of Sciences.

Research areas include Theoretical Physics, particularly relativity, cosmology and quantum field theory. More than 50 research publications, nine books and some popular articles mostly in international journals.

He has participated in international conferences, seminars, symposia, workshops and meetings both in Bangladesh and in many countries of the world. He has founded the Centre for Mathematical and Physical Sciences at the University of Chittagong of which has been Director for many years.



**Prof. Bekhzad Yuldashev FIAS**

Professor Bekhzad Yuldashev was born in Tashkent on 9 May 1945. He graduated from Tashkent and Moscow Universities in 1968. From 1968 till 1971, he undertook research in particle and nuclear physics at the Joint Institute of Nuclear Research (Dubna, USSR) and obtained his PhD in Physics and Mathematics in 1971. In 1981 he defended his Full Professorship (Doctor of Physics and Mathematics) thesis.

In 1990 he was elected as the Director General of the Institute of Nuclear Physics of the Uzbekistan Academy of Sciences and is occupying this position up to now. He is an elected member of the Uzbekistan Academy of Sciences, Fellow of Islamic Academy of Sciences, member of the American Physical Society. He is an elected member of the Scientific Council of the Joint Institute of Nuclear Research (Dubna) and Head of Nuclear Physics Department of the Tashkent State University.

Dr Yuldashev is the Winner of the 1983 State Prize in Science and Technology. In 1977-78, 1980-81 and 1989-90 Prof. Yuldashev was visiting professor at the University of Washington (Seattle, USA), and in 1997, he was awarded a fellowship of the Indiana University (Bloomington, USA).

Prof. Yuldashev has published more than 200 scientific papers dedicated to various subjects of particle and nuclear physics and has some patents. His research also covers isotope production, utilisation of research reactors and instrument making. Presently he is a spokesman for two experiments being performed by international teams of physicists from Uzbekistan, Russia, USA and Canada.



**Prof. Eldar Y. Salayev FIAS**

Prof. Eldar Salayev was born in Nakhichevan, Azerbaijan in 1933.

He was awarded his Doctor of Physical and Mathematical Sciences degree from the Azerbaijan State University.

Prof. Salayev became the President of the Azerbaijan Academy of Sciences in 1983, and in 1997 became the Director of the Institute of Photo-electronics in Baku, Azerbaijan.

He is a noted scientist, specialist in the field of Experimental Physics, Physics and Techniques of Semiconductors, Quantum Electronics and non-linear optics.

Prof. Salayev is one of the founders of a new scientific branch in physics and techniques of Semiconductors-Physics of limiting Anisotropic Crystals.

In appreciation of his remarkable contribution to scientific instrument making, he has been awarded State Prize in 1972 and the Vavilov Prize for his achievements in the sphere of Physics of Semiconductors in 1982.

He has made a valuable contribution in training highly skilled specialists. He has supervised more than 40 doctors' theses. He has also trained a great number of scientists, working in many different countries of the world.

Prof. Salayev has more than 200 scientific works and has 86 inventions to his credit.

Prof. Salayev was elected to the Fellowship of the Islamic Academy of Sciences in 1993.





**Prof. Mehmet Nimet Ozdas FIAS**

Born in Istanbul on March 26, 1921; Prof. Ozdas is married and father of two.

He graduated from the Mechanical Engineering Faculty, Technical University, in 1946, with a Diploma in Engineering. He then obtained the Diploma of the Imperial College, 1950; PhD at London University in 1951; carried out a summer project at MIT (USA) in 1953. He was a Research Fellow at MIT, 1955-1956, visiting Professor, 1953-1959, at Case Western Reserve University; Professor in 1961 at Istanbul Technical University; Founding Director of the Computer Centre in 1961; Founding Secretary General of the Turkish Scientific Council (TUBITAK), 1964-1966; Science Board Member of TUBITAK, 1968-1972; Founding Director of Marmara Scientific and Industrial Research; President of the NATO Science Committee, 1973-1979; Board Member of Von Karman Institute, and steering Committee Member of AGARD in 1973; Minister of State for Science and Technology, 1980-1983; and Professor at Istanbul Technical University, Department of Mechanical and Control Engineering, since then.

Prof. Ozdas is a Member of Sigma Xi; President of the Turkish Organization for Automatic Control; and the author of several articles and books in various languages.

Prof. Ozdas is a Founding Fellow of the Islamic Academy of Sciences (1986).

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

### **IAS Newsletter**

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*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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### 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.

The Journal of the Islamic Academy of Sciences is its main regular publication. It provides a medium through which scientists can get their research papers published.

The Journal 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.

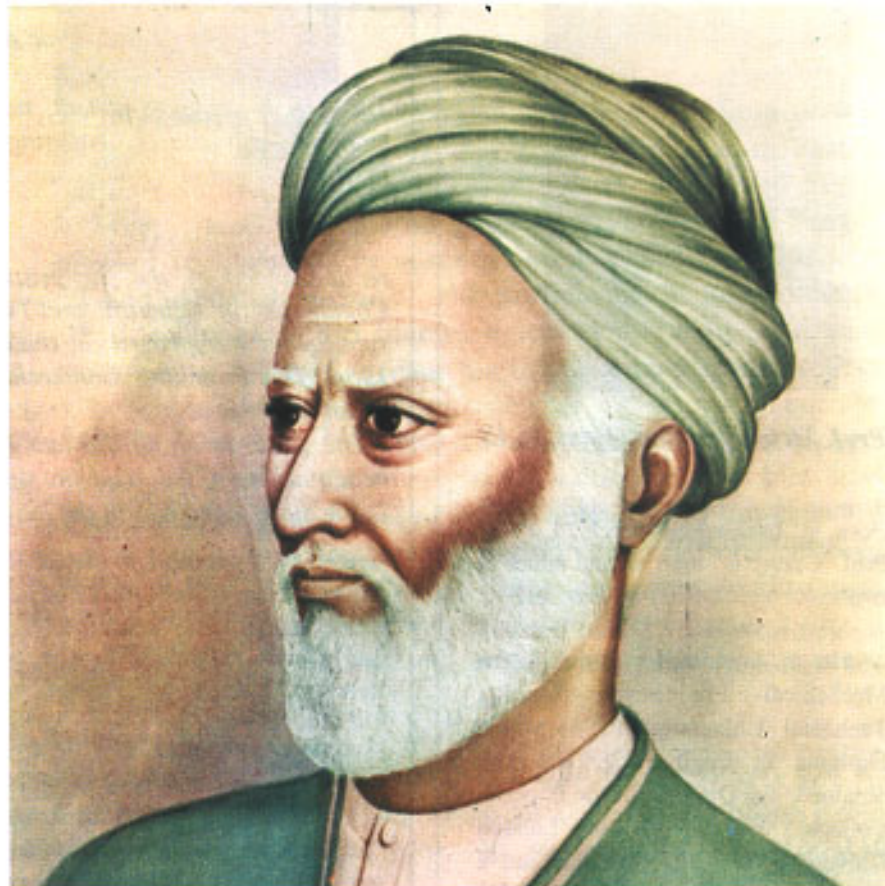
The Academy had previously launched the Internet-based version of the Journal under the Internet Address of

(<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 appearing on the web is Volume 11, Number 3. It contains the following articles that can be divided into the following general categories; Immunology by Arshad, Siddique, Rehman and Aslam; Embryology by Ramazan Demir, a distinguished medical doctor from Turkey; Pharmacology by Ima-Nirwana, Norazlina, Gapor and Khalid; and Biochemistry by Rahimi-Pour, Rahbani-Nobar and Nouri-Dolama.

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



Abu Al Hassan Al Mawardi (972-1058 AD)

Abu al-Hassan Ali Ibn Muhammad Ibn Habib al-Mawardi was born at Basra in 972 AD. He was educated at first in Basra, where, after completion of his basic education, he learned *Fiqh* (Islamic jurisprudence) from the jurist Abu al-Wahid al-Simari. He then went to Baghdad for advanced studies under Sheikh Abdul-Hamid and Abdallah al-Baqi. His proficiency in jurisprudence, ethics, political science and literature proved useful in securing a respectable career for him. After his initial appointment as *Qadi* (Judge), he was gradually promoted to higher offices, until he became the Chief Justice of Baghdad. The Abbasid Caliph *al-Qaim bi-Amr Allah* appointed him as his roving ambassador and sent him to a number of countries as the head of special missions. In this capacity, he played a key role in establishing harmonious relations between the declining Abbasid Caliphate and the rising power of Buwaihids and Seljuks. He was favoured with rich gifts and tributes by most Sultans of the time. He was still in Baghdad when it was taken over by Buwaihids. He died in 1058 AD.

Al-Mawardi was a great jurist, *mohaddith*, sociologist and an expert in political science. He was jurist in the school of *Fiqh* and his book *Al-Hawi* on the principles of jurisprudence is held in high repute.

His contribution in political science and sociology comprises a number of monumental books, the most famous of which are *Kitab al-Ahkam al-Sultania*, *Qanun al-Wazarah*, and *Kitab Nasihat al-Mulk*. The books discuss the principles of political science, with special reference to the functions and duties of the caliphs, the chief minister, other ministers, relationships between various elements of public and government and measures to strengthen the government and ensure victory in war. Two of these books, *al-Ahkam al-Sultania* and *Qanun al-Wazarah* have been published and also translated into various languages.

In ethics, he wrote *Kitab A'adab al-Dunya wa al-Din*, which became a widely popular book on the subject and is still read in some Islamic countries.

Al-Mawardi has been considered as one of the most famous thinkers in political science in the middle ages. His original work influenced the development of this science, together with the science of sociology, which was further developed later on by Ibn Khaldun.