

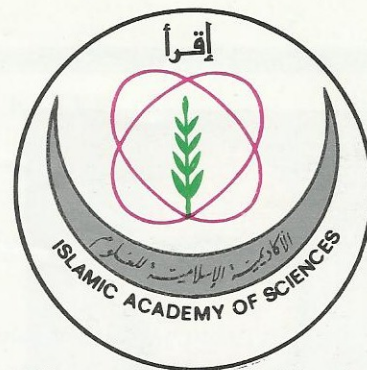
# Newsletter

ISLAMIC ACADEMY OF SCIENCES

May 1991

Volume 5

Number 14



## Academy Committee convenes

The Science Committee of IAS's 1991 Conference has recently concluded its first series of meetings at the IAS Secretariat in Amman.

The conference itself which is entitled "Science and Technology Manpower Development in the Islamic World", will be convened in Amman during December, 1991.

The fifth in a series of conferences aiming at analysing the various aspects of science and technology in the Islamic World, this conference has been designed to achieve the following objectives:

(a) To present and discuss the fundamental and policy issues related to S&T manpower development. Issues such as the allocation of resources to S&T manpower development, role of private and public sector institutions, consistency of S&T manpower development with national objectives and future courses of action and measures to be adopted, in that regard.



Prof. N.M. Bor

(b) To assess the state of S&T manpower development in the Islamic World, highlight strengths and weaknesses and analyse the experiences of some case-study countries selected from several regions.

(c) (i) Ways and means to strengthen national, regional and international co-operation in S&T manpower development amongst the Islamic countries will be identified and discussed.

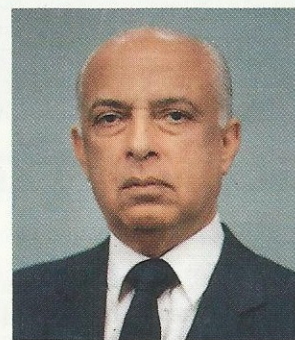
(ii) The role of regional and international agencies in strengthening national efforts in S&T manpower development will be examined.

The conference will include more than fifteen invited presentations as well as a roundtable discussion through which some freely-submitted papers will be discussed.

The Committee proposed the following titles for some of the invited presentations:

- Fundamental Aspects of S&T Manpower Development;
- The Role of S&T in the Human Development of Islamic Countries;
- The Impact of S&T Human Resources on Economic Growth in Developing Countries;

(Continued on page 5)



Prof. M.A. Kazi

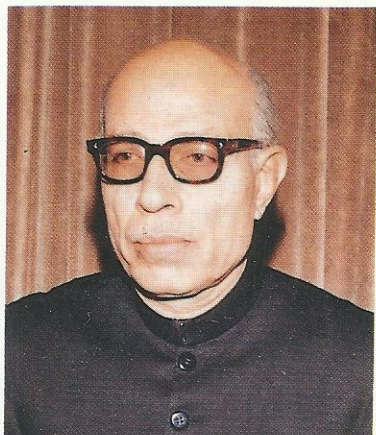
## Council scheduled for June

The IAS Council, has been scheduled to convene during 28-30 June, 1991.

The Council will discuss an extensive agenda covering such matters as the Academy's finances, activities and programmes as well as the IAS's 1991 Conference, "Science and Technology Manpower Development in the Islamic World".

The IAS Council is made up of the President of the Academy Prof. Mumtaz Kazi FIAS, Vice-Presidents; Prof. Mehmet Ergin FIAS, Prof. Saleh Al-Athel FIAS, Prof. Mohammed K Mahmoud, Secretary General; Prof. Ali Kettani FIAS and Treasurer Prof. Fakhruddin Daghestani FIAS. The other Council members are Prof. Shamsheer Ali FIAS, Prof. Sulymane Niang FIAS and Prof. Achmad Baiquni FIAS. The Secretariat of the Academy will be represented at these meetings by Dr Anwar Bilbeisi, who is the Executive Director General and Eng. Mounseef Zou'bi, the Academy's Technical Affairs Director.





## Shami wins 1990 Kalinga Prize

It was announced recently that Prof. Misbahuddin Shami FIAS has won UNESCO's 1990 Kalinga Prize for the Propularisation of Science.

The Kalinga Prize is an international award which was established by UNESCO in 1951 on the bases of a grant given to UNESCO for this purpose by the Kalinga Foundation Trust of India.

A teaching Professor of Chemistry for over thirty years, Prof. Shami is a Founding Fellow of both the Islamic Academy of Sciences and the Pakistan Academy of Sciences, as well as being a Fellow of the Pakistan Institute of Chemical Engineers, and has been an awardee of the Iqbal Centenary Commemorative Medal for 1979.

Lately, Prof. Shami has been also Chairman of the Pakistan Science Foundation and also an awardee of the Pakistan Talent Forum award for 1987.

The editorial board, on behalf of all IAS Fellows, congratulates Prof. Shami on winning this prestigious prize and wishes him great success in the service of science in the Islamic World.



## Khadjiev appointed minister

Prof. Salambek Khadjiev FIAS has recently been appointed Minister of Petro-fining and Petrochemicals in the Soviet Union.

An IAS Fellow since 1989, Prof. Khadjiev's previous post was that of Director General of NPO "Grozneftechim" Institute in Grozny, USSR.

Prof. Khadjiev, who is 50, is a doctor of chemical sciences with a diverse interest in almost every branch of chemistry, as well as a keen interest in the economics of the petrochemical industry.

Prof. Khadjiev has published over 200 scientific papers including many dealing with the development of the petroleum-refining technology and the various new techniques in the petrochemical industry.

As well as editing and publishing 4 books, Prof. Khadjiev has 90 patent certificates to his name in the field of petroleum refining and petrochemistry.

The editorial board, on behalf of all the Fellows of the Academy, congratulates Prof. Khadjiev on his appointment and wishes him every success.



## IAS Fellow participates in CREN

Prof. Syed Zahir Haider FIAS of Bangladesh has recently been nominated National Co-ordinator by the Science and Technology Division of the Government of Bangladesh for the project on Chemical Research and Environmental Needs CREN, instituted by the Commonwealth Science Council, London.

Prof. Haider had participated in the first meeting of CREN held at Kuala Lumpur from 27-28 August, 1990.

The project CREN aims to enhance awareness of the role of chemistry in development and environmental issues particularly in developing countries through co-operative research, to facilitate sustained development and to minimise the adverse consequences on environment.

Prof. Haider is a Founding Fellow of the Islamic Academy of Sciences and a Fellow of the Bangladesh Academy of Sciences, and has over 125 published research papers in the Bangladeshi and international journals of chemistry.



## World Bank announces figures for 1990

The World Bank, biggest source of aid to the Third World, including that to many states of the Organisation of the Islamic Conference OIC, announced recently that its loans totalled \$96.8 billion at the end of 1990.

The bank makes most of its money by investing, at advantageous rates, the proceeds of the bonds it sells. It pays comparatively low rates of interest on its bonds, since its capital is guaranteed by the 154 governments that own it.

The World Bank borrowed the equivalent of \$6.3 billion over the last six months of 1990-38 per cent of it in U.S. dollars, 35 per cent in Deutschmarks, 18 per cent in Swiss francs and nine per cent in Japanese yen.

The bank lent out the equivalent of \$5.6 billion to governments in need at a variable interest-through the window called the International Bank for Reconstruction and Development IBRD.

The poorest countries got another \$2 billion in loans for as long as 40 years at less than one per cent interest, through the World Bank's International Development Association IDA.

The Islamic Academy of Sciences has recently agreed terms with the World Bank whereby the latter would co-sponsor the IAS's 1991 Conference, "Science and Technology Manpower Development in the Islamic World".

Dr Tofan Kolan who is a senior economist at the World Bank, has also been assigned by the Bank to prepare and present a paper at this forthcoming conference. The paper will be entitled, "The Impact of Science and Technology Human Resources on Economic Growth in Developing Countries".

## EDITORIAL LETTER

### *Are we adopting the right S&T policies?*

*Less than ten years away from the proverbial turning point, the year 2000, decision makers throughout the Islamic World must be wondering if they have been adopting the appropriate S&T policies, over the last 30-40 years.*

*It must be said that although most of the policies that were adopted by Islamic countries lacked a sense of co-ordination, the overall result has been some sort of development. This has been primarily due, not to the genuine ideas that were input at the start, but perhaps due to the size of the investment that certain countries, rich in resources, have put into developing their S&T and R&D activities.*

*One of the major difficulties that have faced the general process of development in the Islamic World has been co-ordination, or the lack of it. This has partly been the fault of decision makers, but also was due to socio-geographical factors.*

*Not only did most Islamic countries lack the ability to protractedly plan their technological development, they had to surmount great difficulties adhering to what little planning they did do.*

*This situation has led to a development that is not only difficult to control and monitor but also difficult to benefit from.*

*Lack of continuity in terms of personnel, particularly in top management, has also been a factor in reducing the benefit, developing countries got out of their "development".*

*As the Islamic World looks forward to the 21st century, it must realise that with its resources becoming generally scarcer, it needs to plan more, co-ordinate more and simply stick to planned strategies for long periods and allow them to bear fruit.*

*It has to do this in such a way so as not to add regulation to an already over-regulated system, which is the last thing that is needed but through decisiveness and persistence.*

*With realistic objectives/targets, suitable incentives and the appropriate quantity and quality of regulation, the decision makers of the Islamic World, from all over the OIC-countries, can be sure to achieve their development targets. These targets which are naturally essential to the long-term prosperity of the Ummah.*

*In a World that is becoming increasingly competitive, planning and strategy mistakes in all aspects of development, have become luxuries which nobody can afford.*



## **NGOs looking forward to June '92**

A lot of behind the scenes work is going on already to prepare for next year's UN conference on the Environment and Development UNCED, scheduled for June 1992, in Rio de Janeiro, Brazil.

The conference's objective is to halt and reverse the effects of environmental degradation while increasing efforts to promote sustainable and environmentally sound development in all countries.

Environmentalists from developing countries tend to feel that the conference is in danger of being about the environmental concerns of the North rather than the development needs of the South.

Another possible conference topic is the traditional North-South division over climate issues—specifically, how much money will the industrialised countries offer in order to get developing countries to discuss controls on atmospheric pollutants for which poor countries feel they are only marginally responsible?

On the other hand, experts warn that the conference poses a problem for non-governmental organisations NGOs, whose activities in the last decade have done much to shake the paternalistic approach of national governments and the UN, on development and environment issues.

There was hope also that NGOs would have a role through participation in the national environment and development reports which all governments have been asked to submit by July, 1991.

## **UNESCO seminar highlights environment strategy**

A five-day symposium of environmental education organised by the United Nations Educational Scientific and Cultural Organisation UNESCO, ended in Amman, Jordan recently with a statement offering several recommendations and resolutions expected to be adopted by concerned ministries in the country, and which might in actual fact be applicable to many OIC-member states.

According to the statement, these organisations would work out special programmes dealing with environmental education, benefiting various sectors of the population.

These programmes should aim to spread awareness among children in particular about means of safeguarding the environment and should provide scientific information to enable citizens to protect the

environment from pollution.

The programme, according to the statement, should introduce special curricula and school text-books that advocate means of protecting the environment so that children could contribute towards their country's development.

The statement said that members of the public in general ought to be oriented on means of protecting the environment from pollution through special programmes that could be presented through the media and specifically on radio and television.

It said that special cadres of the public must receive specific training in matters of guiding the public in this affair and in taking active part in the implementation of national programmes designed to protect the environment.

## **International global warming conference concluded**

Delegates from over one hundred countries concluded a 10-day conference on global warming in the States recently.

Part of the conference was dedicated to reviewing a draft treaty to limit emissions of the so-called "green-house" gases.

Some European delegates expressed a preference for a treaty with a timetable for cutting carbon dioxide emissions, the major contributor to global warming.

Delegates of other nations however, have been reluctant to commit themselves to specific emission reductions, fearful that a dramatic shift away from fossil fuels might threaten economic

growth.

The delegates agreed to establish two working groups that will begin to consider a general draft of a treaty at a second round of talks later this year.

Several delegations from developing nations insisted that the subject of financial and technological assistance be given priority treatment by the working groups.

While scientists agree the release of carbon dioxide and other gases is causing a warming of the Earth as the gases trap the sun's heat, there is disagreement over how much of an impact such warming might have.



## Ozone layer thinning twice as fast as previously thought

The Earth's protective layer of ozone appears to be thinning twice as rapidly as scientists previously believed, the Environmental Protection Agency EPA has said, recently.

New estimates suggest there could be an additional 200,000 deaths from skin cancer in the United States over the next 50 years because of the unexpected ozone loss, and that would represent a near doubling from the current rate.

It is internationally agreed upon that chlorofluorocarbons or CFCs, which are widely used in air conditioning and refrigeration, are largely responsible for the depletion of the Earth's ozone layer.

An international agreement, the Montreal Protocol, calls for the phasing-out by the year 2000 of CFCs and other chemicals that attack the ozone layer.

Preliminary data from Nasa, the National Aeronautics and Space Administration, suggest that the ozone layer has been depleted by 4 per cent to 5 per cent over the United States since 1978 whilst previous studies showed depletion of about half that amount.

Other supporting studies have shown that there has been a global decrease of 2.6 per cent over 10 years, with the effects concentrated in the middle latitudes of the northern and southern hemispheres. At 40 degrees north latitude for example, which cuts through the middle of the United States, ozone

has been disappearing at a rate of about 0.5 per cent per year.

The coming-to-light of this new and dramatic information has rejuvenated interest in the international efforts directed towards combating this phenomenon through developing ozon-safe substitute chemicals as well as expanding assistance to poor countries to help them switch from CFCs to other substitutes, which are often more expensive.

Ozone is considered a pollutant at ground level, but scientists say its presence in the upper atmosphere about 10 miles (16 kilometers) up is beneficial. The ozone layer blocks some of the sun's ultraviolet radiation, which can cause skin cancer.

Based on this new data, one cause for concern, experts say, is that while older studies found ozone depletion mostly in winter, the new data finds the phenomenon taking place in the spring as well, when plants are growing and people are more likely to be outdoors in the sun's rays.

Environmentalists at the EPA have said that helping developing countries reduce their emissions of ozone-depleting chemicals was the biggest thing that can make a difference.

In addition, they said, EPA can encourage the recycling of chemicals found in car air conditioners, for example-and can make sure that any substitutes developed are not ozone-destroying themselves.

(Continued from page 1)

- Planning and Education Strategy to Fulfill Present and Future S&T Manpower Needs;
- Environment Necessary for Scientific Productivity: Social, Economic and Scientific Conditions;
- The Role of Non-governmental Institutions in S&T Manpower Development: Opportunities and Options, the Experience of Max-Planck Institute;
- The State of S&T Manpower in the Islamic World;
- Science and Technology Manpower Development: The Experience of Senegal, Algeria, Bangladesh, USSR, Japan and Korea;
- The Role of the Islamic Foundation for Science, Technology and Development IFSTAD, Islamic Development Bank IDB, and the UNESCO in S&T Manpower Development in the Islamic World;
- Contributions of the UN System to S&T Manpower in Developing Countries.

The meeting of the Science Committee which took place in Amman during 26-29 March, was chaired by Prof. Naci Bor FIAS who is Convenor of the Academy's Manpower Standing Committee and attended by Prof. Mehmet Ergin FIAS, Prof. Fakhruddin Daghestani FIAS, Prof. Subhi Qasem FIAS as well as Dr Arafat Al-Tamemi, Director General of the Islamic Foundation for Science, Technology and Development IFSTAD.

The meeting was also attended by Dr Anwar Bilbeisi, the Academy's Executive Director General as well as Eng. Mounneef Zou'bi, the IAS Technical Affairs Director.



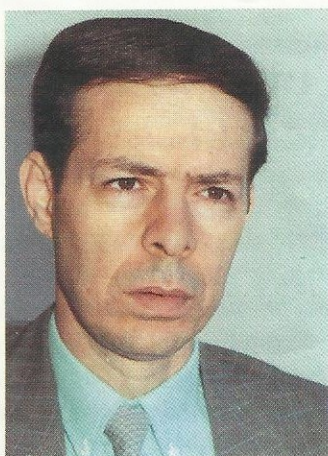


**Prof. John (Younis) A. Katili  
FIAS**

Prof. J. (Younis) Katili FIAS is an elected Fellow of the Islamic Academy of Sciences. He is an advisor to the Minister of Mines and Energy of Indonesia and Acting Vice-Chairman of the Indonesian National Research Council.

A professor of geology for over 30 years, Prof. Katili was educated at the Bandung Institute of Technology as well as at the University of Innsbruck in Austria.

Prof. Katili has written a lot of scientific and policy papers addressing a long list of topics. His contributions and achievements have been internationally recognised culminating in a doctorate *honoris causa* award by the University of Stockholm in 1988.



**Prof. Mostafa Khiati  
FIAS**

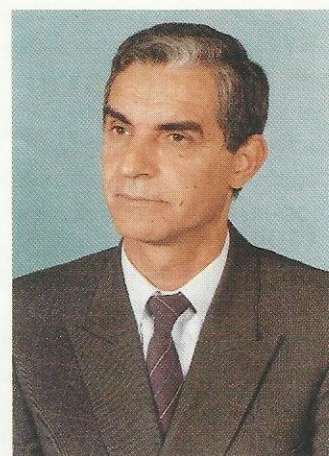
Prof. Mostafa Khiati is an elected Fellow of the Islamic Academy of Science since 1990.

An Algerian professor of medicine for some years, he is the Head of Department of Pediatrics at the El-Harrach Hospital in Algeria.

Prof. Khiati who has over 70 published papers, was educated in Algeria and had attended various training courses in Europe and Canada.

He is an awardee of the 1984 "Shoman" award for Clinical Sciences, the 1986 "Maghrebien Medicine" award, the 1989 "Chadli Benjedid" award as well as the Union of Arab Physicians Award.

Prof. Khiati has also been a consultant with the Algerian Ministry of Health.



**Prof. Abdelhafid  
Lahlaoui FIAS**

Prof. Abdelhafid Lahlaoui is an elected Fellow of the Islamic Academy of Sciences since 1990.

A professor of medicine at Mohammed V University in Morocco since 1977, Prof. Lahlaoui was educated at Geneva and Paris.

Prof. Lahlaoui has over 37 published papers on various medical topics and is an active member in most of the European and Moroccan medical societies.

Of Prof. Lahlaoui's more renowned publications, is a five-volume 'Mini-Encyclopaedia' entitled, "Anatomie Topographique, Applications, Anatom-Chirurgicales", which was published in 1986.

### IDB lends Algeria \$47m

Five Algerian firms have recently signed agreements with the Islamic Development Bank IDB, whereby the Bank would provide the financing required for the imports of raw materials by these firms.

The loans comprise \$13 million to

a house-hold electrical firms, \$10 million to a textile firm, \$10 million to a petrol and gas firm, \$ 9.5 million to a public works firm and \$5 million to a paper and pulp manufacturing firm.

The Academy and the Islamic Development Bank have maintained very good relations over the past couple of years, jointly sponsoring

the IAS's fourth conference, "Technology Transfer for Development in the Muslim World", which was held in Antalya, Turkey during November, 1990.

The IAS hopes that the IDB will support its fifth conference, both financially and academically. A formal request for support has been made for this purpose recently.



## IFAD lend \$93 million to rural poor

The International Fund for Agricultural Development IFAD, had agreed to lend \$93 million to farmers, fishermen, landless labourers and rural women in some of the world's poorest regions, some of which fall within Islamic countries, and about which a detailed discussion took place during the IAS's Food Security in the Muslim World Conference of 1987.

The Fund approved nine separate loans to be spread among the rural poor in Sub-Saharan and North African areas. IFAD will also provide support for Turkey and Ecuador.

Thousands of small fishermen and farmers in Algeria, Congo, Kenya and Nigeria will receive close to \$ 70 million in credit to enable them to modernise crop and livestock cultivation and sanitation in their poor farm communities.

## IFAD discusses food security

The annual meeting of the Board of the International Fund for Agricultural Development IFAD, will soon be convened in Rome.

Problems facing the agricultural sector in developing countries will be discussed as well as the means of addressing such problems.

Participants will also discuss issues pertaining to world food security, means of addressing the population growth problems and providing sufficient food to the people all over the world.

It is worth noting that COM-STECH (Committee on Scientific and Technological Co-operation among Islamic Countries), has recently commissioned three experts to prepare the first of its kind, "Food Profile of OIC Countries".

## *The Islamic Academy of Sciences IAS*

*The IAS is an independent, non-political, non-governmental 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 Cassablanca, 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 the Islamic countries and to identify future technologies of relevance for possible adoption and utilisation.*

## IAS Newsletter

*Published in English by the Islamic Academy of Sciences.*

### Editorial Board:

**Dr Anwar M Bilbeisi**

**Eng. Mounneef R Zou'bi**

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.

### Correspondence:

**Islamic Academy of Sciences  
PO Box 830036  
Zahran  
Amman  
Jordan**

**17 Djibouti Street  
Sixth Circle  
Telephone: 822104, 823385  
Facsimile: 962-6-821803  
Telex: 24368 IAS JO.**

Copyright (c) IAS, 1991  
All rights reserved





## Arabic Islamic Thought published

In pursuance of the directives of His Royal Highness, Crown Prince Al-Hassan of Jordan, Patron of the Islamic Academy of Sciences and under COMSTECH's sponsorship, the IAS has recently published Volume 1, Number 1 of the Arabic-language version of COMSTECH's quarterly journal, "Islamic Thought and Scientific Creativity".

The publication which was co-sponsored by the Royal Academy for Islamic Civilization Research, Al Albait Foundation, contained articles by Prof. Mumtaz Kazi FIAS, IAS President and Co-ordinator General of COMSTECH and Prof. Mazhar Qurashi FIAS, Secretary General of the Pakistan Academy of Sciences.

## Conference proceedings out soon

The proceedings of the Academy's forth conference, "Technology Transfer for Development in the Muslim World", will soon be published by the IAS.

The book will contain all the papers that were presented at the conference which was convened at Antalya, Turkey during 19-21 November, 1990, and which was patronised by President Ozal of Turkey.

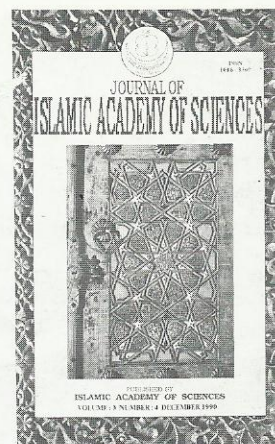
## New issue of Journal published

Volume 3, Number 4 of the Journal of the Islamic Academy of Sciences has recently been published by the IAS.

The Journal is the flagship of the IAS's current publications series and is edited and printed in Turkey under the chief editorship of Prof. Naci M. Bor FIAS.

The latest issue contains 22 research papers covering such topics as science policy, chemistry, solar sciences, biochemistry, electrochemistry, statistics, botany, physical chemistry, pharmacology, microbiology, general surgery, stomatology as well as gynecology.

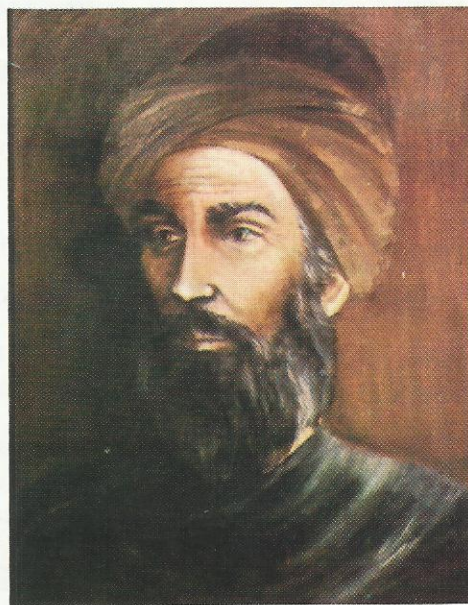
This issue marks a turning point in the four-year history of the Journal since it is the first time that



the Journal appears in an indexed 120 pages rather than 70 pages, as was the case previously.

Full details about the Journal and the articles it contains can be obtained from Prof. Naci M. Bor Mithatpasa Cad., No.66/5, Ankara, Turkey.

## Muslim Scholars



**ABU AL-QASIM AL-ZAHRAWI (936-1013 A.D)**

Abu Al-Qasim Khalaf Ibn Abbas Al-Zahrawi (known in the west as Abulcasis) was born in Zahra near Cordova in the then Andalusia.

He is best known for his early and original breakthroughs in surgery as well as for his famous medical Encyclopaedia *Al-Tasrif*, which is composed of thirty volumes covering different aspects of medical science.

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