Pakistan Mathematical Society
Newsletter

EDITORIAL

The present state of mathematics in Pakistan is appallingly pathetic. It is universally accepted that mathematics plays a pivotal role in the development of science, engineering and technology, which in turn, supply it with new challenges. Therefore, a debilitation in mathematics causes insurmountable impediments in the way of growth of science and technology.

There are plenty of cogent reasons for this deplorable plight of mathematics but the single most excruciating cause, which stands out, is the role of its self-styled egocentric exponents who cannot even be justifiably branded as mathematicians. A very agonizing aspect of this dismaying scenario is that all so-called mathematicians, who are blocking its advancement, have been enjoying the unqualified patronage of HEC. Thus the funds doled out to these institutions in which the mathematically unqualified persons are at the helm of affairs, is not only sheer wastage of national resources but also counterproductive.

To salvage mathematics from its complete ruination, it is imperative that appropriate experts in mathematics immediately replace the champions of mathematics, who thrive only on their propaganda hyperbole. It is definitely in consonance with the dictates of justice and fair play to demand that cronyism be assigned nil credit while making crucial appointments like the heads of scientific institutions. It goes without saying that the decisions based on justice and due recognition of merit never fail to succeed and hence can cement the foundation of a nation.

INTERVIEW OF PROFESSOR B.K.DASS

Dr.B.K.Dass is a Professor of Mathematics at the University of Delhi, India. He has earned two research degrees namely Ph.D. and D.Sc. He has published over seventy research papers in international journals of repute and has supervised more than a dozen M.Phil. and more than a dozen Ph.D. candidates. His current research interests include Combinatorial and Algebraic Coding Theory, Applied Algebra, and Discrete Mathematics.

Professor Dass has traveled widely to various countries several times such as U.S.A., Canada, Italy, France, Switzerland, Germany, Austria, Yugoslavia, Greece, Denmark, Japan, Thailand, Hong Kong, Pakistan etc. as Visiting Professor/Visiting Scientist, and has delivered more than 150 lectures in various universities and research institutions of these countries as colloquium talks, invited lectures or keynote addresses in various international conferences.

He is Chief Editor of four internationally acclaimed research journals, viz., the 'Journal of Information and Optimization Sciences', 'Journal of Interdisciplinary Mathematics', 'Journal of Statistics & Management Systems', and 'Journal of Discrete Mathematical Sciences & Cryptography', He is on the editorial boards of over a dozen other international research journals. He has also edited several books and the proceedings of various conferences. He has received several awards and honours, including that of Adjunct Professorship in an Italian university.

Professor Dass has been involved and is serving on several committees of national importance in his country such as 'Defence Research & Development Organisation', 'Department of Science & Technology', 'University Grants Commission' in various capacities and has undertaken and completed several research projects of agencies like 'University Grants Commission' and 'Indian Space Research Organisation'.

A Photograph will be inserted here.

Question   Keeping in view the quality of research papers presented by Pakistani mathematicians in 6th IPMC-2005, how do you rank Pakistani researchers internationally?

Answer   The contents of research papers presented by young Pakistani mathematicians in 6th IPMC-2005 by and large were not very deep (except a couple of talks) However, the young researchers displayed the potential to carry out good research work if provided with good facilities in terms of latest literature, viz., books and research journals.

Question   How far can an International Conference on Mathematics help to mobilize the local community in doing creative work in mathematics?

Answer   There is a need to develop mathematical culture amongst researchers. Organizing international conferences like 6th IPMC-2005 could be one way to expose the researchers to new ideas and make them feel comfortable with their counterparts particularly from outside Pakistan to discuss their problems and exchange ideas.

Question   The Higher Education Commission of Pakistan has adopted a multidimensional approach to promote research activity in our faculty. One of the aspects of its policy is to hire foreign faculty members to work in Pakistani universities on a short-term basis. Do you feel that this approach for developing research is more helpful than sending students to other countries for advanced studies?

Answer   In order to promote research activity, both the approaches are necessary. When any scholar goes to another university outside Pakistan, he gets a good horizon to expand his thinking process beyond his own research problems, as he is able to interact with scholars belonging to different disciplines. When a foreign faculty member is to be hired in Pakistan then it must be ensured that the guest is able to help locals in establishing a good school in an area of his expertise.

Question   What are the dominant reasons for making mathematics a compulsory component of school syllabi universally?

Answer   Mathematics, which used to be known as the queen of all sciences, has now become the mother of all technologies. In fact, the progress of any country can be measured by the level of developments in mathematics and related areas. Therefore, mathematics must be made a compulsory component of school syllabi in order to prepare any country to be technologically advanced to ensure its future survival. However, the course contents at different levels of schooling must be carefully chosen.

Question   It is a matter of common experience that mathematics is not a very popular subject in the academic institutions of third world countries. Can you suggest some remedial measures to curb this tendency?

Answer   The right kind of people in third world countries do understand the importance of mathematics. However, with the world becoming materialistic, greater impetus needs to be given to create awareness of this fact by organizing public lectures and mathematical exhibitions, by setting up mathematics laboratories in academic institutions, by organizing schools for the existing and future teachers of mathematics and providing them training to teach mathematics to inculcate interest in the subject. Such activities help in taking away the fears about mathematics from the minds of the general public as well.

INTERVIEW OF PROFESSOR ALBERTO FACCHINI

Professor Alberto Facchini was born on 31 July 1954 in Pordenone, Italy. He received Laurea in Mathematics and was proclaimed Doctor in Mathematics in July 1977. His

doctoral thesis was on "Sul problema di Serre" under the supervision of Professor Tomaso Millevoi, University of Padua.

Professor Facchini has held many important positions: grant of the Italian Consiglio Nazionale delle Ricerche at the Istituto di Algebra e Geometria of the University of Padua; grant of the Italian Consiglio Nazionale delle Ricerche at the Department of Pure Mathematics of the University of Sheffield, Great Britain; assistant professor of Algebra at the Faculty of mathematical, physical and natural Sciences of the University of Udine; associate professor of Algebra at the Faculty of mathematical, physical and natural Sciences of the University of Udine; full professor of Algebra at the Faculty of mathematical, physical and natural Sciences of the University of Udine; full professor of Algebra at the Faculty of mathematical, physical and natural Sciences of the University of Padua; visiting professor at the Department of Mathematics of the Universitat Autònoma de Barcelona, Spain; on sabbatical leave at the Centre de Recerca Matemàtica (Barcelona); on sabbatical leave at the Centre de Recerca Matemàtica (Barcelona).

Professor Facchini's fields of research are ring and module theories. He has delivered lectures in Australia, Austria, Belgium, Brazil, China, Czech Republic, Germany, Great Britain, Hungary, India, Iran, Ireland, Italy, Japan, Mexico, Morocco, Pakistan, Poland, Portugal, Russia, Saudi Arabia, Spain, Turkey and USA.

Alberto Facchini is a reviewer for Mathematical Reviews. He has written about seventy research papers written in mathematical journals, three textbooks, and a book published by Birkhäuser Verlag (Basel). He is the editor of the proceedings of three conferences published by Kluwer Academic Press, Marcel Dekker Inc. and Scientific World, respectively. He is a member of the Unione Matematica Italiana, the European Mathematical Society and the American Mathematical Society. In 1981 he received the Bonavera Prize in Mathematics. He is presently one of the editors of Communications in Algebra, Rendiconti del Seminario Matematico dell'Università di Padova, Journal of Algebra and Number Theory, and Journal of Algebra and Its Applications. He is presently one of the members of the Scientific Advisory Board of the Centre de Recerca Matemàtica (Barcelona, Spain). Professor Facchini has a son, Marco (born in 1984), and a daughter, Giulia Valentina (born in 1987).

Question   Keeping in view the quality of research papers presented by Pakistani mathematicians in 6th IPMC 2005, how will you rank Pakistani researchers internationally?

Answer   They are good, they are in the average of the mathematical researchers at the international level. Some of them are really good.

Question   How far can an international conference on mathematics help to mobilize the local community in doing creative work in mathematics?

Answer   It depends on what you mean by "local community". If by "local community" you mean the "local mathematical community", an International Conference

on Mathematics can stimulate to do creative work in mathematics. If by "local community" you mean the "local nonmathematical community", an International Conference on Mathematics can inform of the existence of creative work in mathematics and modern research in mathematics.

Question The Higher Education Commission of Pakistan has adopted a multidimensional approach to promote research activity in our faculty. One of the aspects of its policy is to hire foreign faculty to work in Pakistani universities on a short-term basis. Do you feel that this approach for developing research is more helpful than sending students to other countries for their advanced studies?

Answer This is very difficult to say, both approaches can be useful. What is important is the quality. You may hire foreign faculty, but it must be good faculty, not any faculty. Or you may send students to other countries for their advanced studies, but it must be to good universities and to work with good researchers, not to any university abroad and to study under the direction of any professor.

Question What are the dominant reasons for making mathematics a compulsory component of the school syllabi universally?

Answer Mathematical thought and logical thought are fundamental parts of human thought; they are an indispensable part of education of man.

Question It is a matter of common experience that mathematics is not a very popular subject in the academic institutions of third world countries. Could you suggest some remedial measures to curb this tendency?

Answer You must really invest on this. As I've just said, developing mathematical thought and logical thought is fundamental in the education of man.

THE STRUGGLE AGAINST THE IMPACT FACTOR
Qaiser Mushtaq

Below I would like to describe why the Impact Factor, as it is calculated today, is not suitable for mathematical journals and I would like to open a discussion of how to change the present method of IF calculation to reflect the realities of mathematics research.

First, let me explain how the impact index is computed. The IF of a journal for year Y (say, for Y = 2003 is the ratio C/N, where C is the number of citations during year Y (i.e., 2003 in our example) of papers published in a particular journal in years Y- 1 and Y-2 (i.e., 2002 and 2001). N is the number of published papers during these two years (Y – 1 and Y – 2) in this journal.

The controversy over the use of the Impact Factor as a criterion for ranking scientists began with the publication of a list in 1999 by the Pakistan Council of Science and

Technology (PCST) entitled *The Leading Scientists of Pakistan*. PCST published a similar list the following year entitled *Scientific Research in Pakistan*.

A campaign against the use of the Impact Factor (IF) to rate scientists was launched as early as in 1999 when I returned from Brunei Darussalam after about five and a half years and wrote an article against it in The News on 28 Oct 1999. Another article by me opposing the Impact Factor also appeared in The News on 19 July 2000.

On 19 August 2000, my letter was published in The News in response to an article by Professor Asghar Qadir in The News, favouring the government's use of the Impact Factor to rate scientists. Another critique against the Impact Factor by Dr Shahid Siddiqui was also published in Dawn of 6th May 2001.

On 3 April 2001, I was invited to speak on the pernicious effects of the Impact Factor on scientists and science in Pakistan at a seminar at the Ghulam Ishaq Khan Institute. I opined that the use of the Impact Factor would adversely affect the already poor state of science in Pakistan. The seminar generated an interesting discussion during the question and answer session.

In August 2001, the use of the Impact Factor to measure the worth of scientists in Pakistan was criticized at the forum of the 2nd Pure Mathematics Conference 2001 in Islamabad. Mathematicians at the conference objected to the fact that a criterion, which was originally designed to measure the worth of scientific journals, was being used to measure the worth of scientists in Pakistan. This they said, in effect rendered mathematicians as the least productive of scientists in Pakistan. The Impact Factor was denounced as an inaccurate and poor attempt to quantify the subjective matter of praising the worth of a scientist.

Meanwhile in January 2001, I approached the Federal Ombudsman and filed an application against the government's use of the Impact Factor to rate scientists. A hearing was thus held in which both sides argued their respective viewpoints. Finally in September 2001, the Federal Ombudsman issued its verdict in favour of the complainants.

In its findings dated 26 September 2001, the Federal Ombudsman wrote: "...it is acknowledged that the Impact factor criterion has its limitations, which are all the more significant in the case of disciplines of physics or mathematics. It would certainly be unfair that those in the aforementioned disciplines be judged wholly and solely on the basis of this criterion for the purpose of promotions, awards, research grants, etc. The same would amount to injustice and hence, mal-administration as defined in Article 2(2) of President's Order No 1 of 1983.

It is therefore recommended that the Impact Factor criterion may not be taken as the sole criterion for the assessment of individual scientists, specially those in the discipline of mathematics..."

Proponents of the Impact Factor readily admit that the use of the criterion to assess the work of scientists has its defects. The then minister of science and technology, Prof Atta-ur-Rahman, had himself admitted "the drawbacks which the Impact Factor assessment process has" in a reply letter dated 10 August 2000 to me regarding the Impact Factor.

The then Dean of the Faculty of Natural Sciences, Quaid-i-Azam University, Professor Qadir, in his article in The News published on 7 August 2000 advocating the use of the Impact Factor, also wrote that there were "many problems" associated with the Impact Factor.

The main counter argument of the proponents of the Impact Factor is that a rough yardstick for assessing the quality of scientific productivity in Pakistan is better than no yardstick at all. Both Professor Atta-ur-Rahman and Professor Qadir have stated this.

Critics however strongly believe that the negative impact and damage to science arising from the Impact Factor's "drawbacks" and "many problems" will more than counter any advantage which the proponents say using the Impact Factor will have in Pakistan. I have been looking into the question of the validity of information gleaned from the Journals Impact Index and have noted that, for the mathematical community at least, this index gives, in some cases, a misleading impression of the relative standing of journals. This data is now being used by our universities in faculty assessments for financial and academic awards, for awarding projects and etc.

Researchers who work in mathematical areas, which are though very theoretical but has some resemblance with applied sciences, have wider range of journals to publish in them. Not only that it increases the probability of getting a paper published but also the process of getting it published is much faster than the journals which are exclusively meant for mathematics. These journals have much greater Impact Factors than the mathematical journals not because they are qualitatively better but because they have a wider readership and the time spent from acceptance of a paper to its publication is much shorter. Also, PCST uses the list of Impact Factors published by Thomson Company, which lists only 255 mathematical journals, whereas the list of journals with a non-zero impact factor is 6 to 7 times the list produced by the MathSciNet of the AMS which has created its own Citation database.

This puts mathematicians in general and pure mathematicians in particular at a very disadvantageous position. The effects will be adverse. Young researchers are already feeling discouraged and out of favour. Due to economic and social pressures, they are already giving up research in pure mathematics. The number of students registering for M.Phil. and Ph.D. in pure mathematics is on the decline. Mathematics, especially fundamental research, has to be saved. It is with this aim that I am trying to correct the existing structure with the hope that our mathematical community may influence Professor Dr Atta ur Rahman to change the system for mathematics and create (and use) an Impact Factor suitable for mathematics.

Recently one very important change has occurred. We now see a citation index at MathSciNet for mathematics journals, which takes into account the last five years' publications. It immediately introduces some adjustments to the order found in Thomson's citation index, and the relative picture is much closer to the reality.

PHD AT QAU – A HOT CAKE
Qaiser Mushtaq

Up to now, only 38 Ph.D.s in mathematics have been produced at QAU. The first Ph.D. in mathematics was produced 24 years after the birth of Pakistan. Quaid-i-Azam University was hardly four years old when it produced Pakistan's first Ph.D. in mathematics in 1971. Due to lack of incentives, inadequate support facilities and the absence of an appropriate mathematical environment, the production of doctorates in mathematics has been rather less than what it shall have been otherwise.

There has been a scarcity of mathematicians in Pakistan since 1947. Lack of interest in development of mathematics in Pakistan left it far behind compared with many developing countries even.

The following table shows the performance of individuals at QAU who have produced doctorates in various sub-branches of mathematics:

Ser	Name	No	Experience at QAU	Nature
1	Q.K.Ghori	2	1966 - 83,1984 - 88	Applied
2	A.H.Baloch	1	1967 - 70, 1984 - 87	Statistics
3	M.A.Rashid	1	1970 -77	Applied
4	A.Qadir	9	1973 - 2004	Applied
5	Q.Mushtaq	6	1979 - to date	Pure
6	I.Beg	1	1986 - 1996	Pure
7	S.Asghar	8	1973 - 2006	Applied
8	M.Ziad	2	2002 - to date	Applied
9	L.A.Khan	1	1984 - 91	Pure
10	M.F.Khan	1	1985 -1996	Pure
11	F.Ahmad	1	1974 -77, 1985 - 87, 1992 - 2004	Applied
12	T.Hayat & S.Asghar	1	1999 - to date	Applied
13	M.Ziad & A.Qadir	1	1993 - to date	Applied
14	A.H.Bokhari & A.Qadir	1	1985 - to date	Applied
15	M.Auyb & T.Hayat	1	1994 - to date	Applied
16	S.Asghar & M.Ayub	1	1973 - to date	Applied

It is clear from the following table that mathematics did not receive adequate attention from those who were at the helm of affairs in mathematics for many years. If they had worked for mathematics, the result would have been much different.

Country	United States	Pakistan
Population	293,655,404	165,803,560
Population Growth Rate	2.09%	4.3%
Literacy Rate	50.9%	48.7%
PhDs Produced per year	950	0.59

From the figures in the table it is clear that by now Pakistan should have had about 20,000 to 30,000 PhD in mathematics. The locally produced Ph.D.s, according to the Mathematics Subject Classification 2000 (MSC-2000), work mostly in the following 5 specializations:

M.SC.-2000 #16   Associative Rings and Algebras,
M.SC.-2000 #20   Group Theory and Generalizations,
M.SC.-2000 #46   Functional Analysis,
M.SC.-2000 #70   Mechanics, and
M.SC.-2000 #83   Relativity and Gravitational Theory.

Due to in-house breeding, many important branches were neglected and as a result now they are non-existent in Pakistan. The second generation of local PhDs are by and large producing substandard doctorates in Pakistan. In 2004, HEC started an extensive PhD programme to improve the state, especially of science and technology in Pakistan. It allocated a huge amount for its PhD programme and gave lucrative incentives for 'PhD supervisors' and 'PhD students'. But, as it was expected, many individuals took the advantage and accepted as many HEC scholarship holders as their PhD students as possible. In mathematics, they virtually took as many as they were available in the 'market'. As soon as it happened, HEC realized its mistake and in an effort to correct it, put a bar on taking no more than 10 students at a time. Even 10 is a big number. Many outstanding mathematicians in highly respected universities abroad do not take more than 2 or 3 at a time. The following table shows how some became 'rich overnight'.

CURRENT Ph.D. STUDENT ENROLLMENT IN MATHEMATICS

Ser	Supervisor	Number of Students	Number of Research Papers Reviewed in MR	Experience at QAU up to 2004	Specialty
1	Asif Ali	10	7	7	Pure
2	Tariq Shah	5	3	5	Pure
3	Naseer Ahmed	7	7	17	Applied
4	M. Ayub	9	9	10	Applied
5	Tasawar Hayat	9	49	7	Applied
6	Saleem Asghar	5	52	32	Applied
7	M.Shabir	7	12	5	Pure
8	M.Farid Khan	2	2	29	Pure
9	Q.Mushatq	6	57	25	Pure
10	M.Y.Nasir	1	1	26	Applied

It remains to be seen how many doctorates the Mathematics Department at QAU will be able to produce in due course. A huge amount in the form of grant on PhD scholars is being spent. How much money will go in waste has yet to be seen in the coming few years. The students are already dissatisfied with a number of supervisors. Those who are unable to suggest any specific worthwhile research problem and supervise their students have already started looking for "ghost" supervisors. Some have even started offering money to "ghost" supervisors. Joint supervision, as marriages of convenience, are on the increase. In certain cases, one faculty member has started selling PhD theses for the price of getting political support for developing him as a head of a pressure group within the university. Of course with these practices, the quality of research work is being compromised. The theses are sent abroad to hastily inducted foreign referees who are not as relevantly qualified and competent as they were previously. The question, how many and of what quality doctorates will be produced out of these 61 scholars in due course, will be raised in future to those who have made a mockery of the term 'scholarship'.

WOMEN MATHEMATICIANS IN PAKISTAN
Farhana Shaheen

It is hard to find data about mathematics in Pakistan for analysis. I tried to find some information about Pakistani women mathematicians but no data was readily available. I consulted a number of senior mathematicians to collect some information in this regard. Whatever data and information I could gather, I thought should be presented here for the information of my colleague mathematicians.

According to my information there are 16 Pakistani women mathematicians. All except three obtained their doctorates from either the United Kingdom or the United States. The four local PhD degree holders, except one, are all understandably from Quaid-i-Azam University, Islamabad. Two of them, namely Dr Qamar Iqbal and Dr Farhana Shaheen were supervised by Professor Qaiser Mushtaq – one specializing in LA-semigroup

S/No	Name	Country	Specialty	Designation	Residing
1	Dr Shamim Arif	UK	Pure	Prof	Lahore
2	Dr Khalida I.Noor	UK	Pure	Prof	Islamabad
3	Dr Suraiya J. Mahmood	UK	Pure	Assoc Prof	Jeddah
4	Dr Farhat Baber	USA	Pure	Assoc Prof	Islamabad
5	Dr Ghazala Sadiq	USA	Applied	Prof	Islamabad
6	Dr Farhana Shaheen	Pak	Pure	Assoc Prof	Karachi
7	Dr Qamar Iqbal	Pak	Pure	Assoc Prof	New York
8	Dr Tahira Haroon	Pak	Applied	Assoc Prof	Abottabad
9	Dr Saadia Khan	UK	Applied	Assist Prof	Wah
10	Dr Zahida	UK	Pure	Assist Prof	Multan
11	Dr. Sarwar Jahan Abbasi	UK	Pure	Prof	Karachi
12	Dr Tahira N.Butter	UK	Pure	Assoc Prof	Lahore
13	Dr Nusrat Yasmin	UK	Applied	Assoc Prof	Multan
14	Dr Lalarukh Kamal	Pak	Applied	Prof	Quetta
15	Dr Nazra Sultana	UK	Applied	Assist Prof	Sargodha

Theory and the other specializing in Group Theory. The third, Dr Tahira Haroon, has specialized in a branch of applied mathematics, namely fluid mechanics, under the supervision of Professor Saleem Asghar. The fourth one, Professor Lalarukh Kamal is from Baluchistan University and her doctoral supervisor was Professor Syed Mohsin Raza.

CONFERENCES/SEMINARS

7th International Pure Mathematics Conference 2006
5 – 7 August 2006
Islamabad, Pakistan

Description:
The 7th International Pure Mathematical Conference 2006 (7th IPMC 2006) is the 7th international conference in the series of Pure Mathematics Conferences that take place in Islamabad every year in August. It is a thematic conference on Algebra, Geometry, Analysis held under the auspices of the Pakistan Mathematical Society. The entire conference is organized under one roof at a four-star hotel in the modern, peaceful and beautiful federal capital of Pakistan located at the footsteps of the scenic Margalla Hills. There will be free housing for local participants. Several recreational trips will be organized in and around Islamabad introducing the unique local and multi-ethnic culture.

Information and registration:

Please fill in the on-line registration form at www.pmc.org.pk and find more information therein. The conference is convened by Professor Dr Qaiser Mushtaq in collaboration with Mathematics Division, Institute of Basic Research (Florida, USA), Higher Education Commission, Pakistan Science Foundation, Pakistan Telecommunication Ltd, and Quaid-i-Azam University, Islamabad.

International Conference and Instructional Workshop on Discrete Groups
17 July to 4 August 2006
The Morningside Center of Mathematics, Beijing
People's Republic of China

Description
Locally symmetric spaces and discrete subgroups of Lie groups have played a fundamental role in many branches of modern mathematics. Various aspects of these important objects are often studied by different groups of people using different methods. It would be beneficial and fruitful to bring together experts in all these areas to exchange their results, techniques, to develop possible collaborations, and to show the power and beauty of locally symmetric spaces and discrete subgroups of Lie groups.

Information and registration:
For more information the following persons can be contacted: Xiaoning Li (for hotel and arrival information); e-mail: xnli@mail.math.ac.cn, Chen Fang (for titles and abstracts of talks); e-mail: qjpam@henu.edu.cn.

Workshop/Conference on Algebra and Graph Theory
13 to 22 March 2006
School of Mathematical Sciences, GC University, 68-B, New Muslim Town, Lahore, Pakistan.

Description:
The first part (6 days) of the workshop is intended to serve as an advanced level school with the purpose of introducing modern topics in Commutative Algebra and Graph Theory to the Pakistani researchers and Ph.D. students interested in these areas of Pure and Applied mathematics. The second part (4 days) will be devoted to presentations on the Frontiers in Commutative Algebra, Graph Theory, their Connections and Applications. The presentations will be made by some top world experts in the respective fields. In order to provide ample time for discussions and interactions between the speakers and the participants, there will be at most two lectures (or presentations) per day.

Information and registration:
For registration send your letter of interest by e-mail to: sms@sms.edu.pk before 2nd March 2006. Any additional information can be obtained from Dr. Mircea Becheanu (bechmir@fmi.unibuc.ro)

One-day Workshop on Mathematics of Symmetries
18th January 2006
Centre for Advanced Mathematics and Physics, **National University of Sciences & Technology, Rawalpindi, Pakistan.**
Description:

The workshop will take place on 18 January 2006 at the Centre for Advanced Mathematics and Physics, National University of Sciences &Technology at the ASG Auditorium, College of Electrical & Mechanical Engineering Peshawar Road, Rawalpindi, Pakistan. The plenary speakers are: Hassan Azad (KFUPM, Saudi Arabia), Fazal M. Mahomed (Witwatersrand, South Africa), Asghar Qadir (CAMP, NUST Pakistan).

Information and registration:
For registration and information contact Dr Khalid Saifullah at Saifullah@qau.edu.pk

9th National Seminar on Mathematics of the PakMS
30th March 2006
Auditorium, National Language Authority, H-8, Islamabad
Description:

The 9th National Seminar on Mathematics of the Pakistan Mathematical Society will take place on 30th March 2006 at 5.15 p.m. at the Auditorium, National Language Authority, H-8, Near Shifa International Hospital, Islamabad. Professor Dr. J. Lewins, Cambridge University, UK, will speak on the Role of Mathematics in Science and Engineering. Air Marshal (Retd) Javed Ahmed Qazi, the Vice Chancellor of Air University, Islamabad has consented to be the Chief Guest.

Information and registration:
For registration and information contact Dr M.Ashiq at ashiqjaved@yahoo.co.uk .