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Pakistan Mathematical Society Newsletter

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Editorial

Welcome to our regular newsletter, a platform where we share updates on the activities of the Pakistan Mathematical Society (PakMS) and its esteemed members. In addition, we aim to cover various topics of interest to our members, ensuring they stay informed and engaged.

This newsletter serves as a vital tool for disseminating information about mathematical seminars, workshops, lectures, conferences, and other related events both within Pakistan and internationally. By doing so, we facilitate connections within our community and provide opportunities for collaboration and learning.

Moreover, beyond just sharing updates, our newsletter fosters dialogue and debate on issues and governmental policies impacting mathematics, including education, teaching methodologies, and research initiatives. We believe that by engaging in discussions, we can collectively address challenges and advocate for positive change in our field.

With each edition, we reflect on the mathematical events and activities of the past quarter while also looking ahead to future endeavours and challenges faced by PakMS and its members. We encourage active participation from our

readers by inviting submissions of information about mathematical activities in their institutions, as well as articles on topics of interest to the broader community.

Together, let us continue to develop a proper mathematical culture in Pakistan and contribute to its growth.

The Editor

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Celebrating 90 years of Professor B.A. Saleemi's Expertise

Qaiser Mushtaq
Emeritus Professor, QAU, Islamabad

Bashir Ahmed Saleemi, more commonly known as B.A. Saleemi, was born on October 20, 1933, into a Rajput (Minhas) family in the serene town of Jaranwala, nestled near Lyallpur (now named as Faisalabad) in the vibrant province of Punjab, Pakistan. As the youngest among four brothers and four sisters, Saleemi's early life was steeped in the embrace of a large, supportive family.

His educational journey commenced at the Government High School in Jaranwala, where he completed his matriculation in 1952, laying the foundation for his academic pursuits. It was during his time at Islamia College, Railway Line, Lahore, where Saleemi found inspiration from eminent figures such as S.A. Rasheed and Sanaullah Bhatti, nurturing his intellectual curiosities.

Eager to delve deeper into the realm of knowledge, Saleemi pursued a Bachelor of Science degree in Physics, Mathematics, English, and Persian (Optional) from the Punjab University, Lahore, where the guidance of his Physics teacher, Mumtaz Ali Shaukat, left an indelible mark on his academic path.

Subsequently, he earned his MSc in Mathematics in 1958, securing second position in the Punjab University. Throughout his academic journey, Saleemi was fortunate to learn from esteemed mentors such as Dr. Manzur Hussain, Munir A. Rashid, Maqbool Ellahi, S.M.Yusuf and above all these Sheikh Naseeruddin whom he ranks at the top.

Fueled by his passion for academia, Saleemi embarked on a diverse career trajectory. He commenced as an Assistant Professor at Cadet College Hasanabdal, followed by stints at UET Lahore and Punjab University, where he honed his teaching skills and expanded his academic repertoire.

In 1960, Saleemi got married and subsequently ventured to Tabriz University, Iran, as an Assistant Professor. His pursuit of academic excellence led him to Liverpool, UK, where he embarked on a doctoral journey in differential geometry under the tutelage of T.J. Willmore, profoundly influenced by John Milner and Jimmy Eels. His thesis, entitled Total Absolute Curvature of Immersed Manifolds,

culminated in the attainment of his PhD in 1966. In it he generalized the famous result of C.C.Chern.

Returning to Pakistan, Saleemi's academic prowess led him to Islamabad University (later re-named as Quaid-i-Azam University, Islamabad), and later to international academic endeavors, including tenures at Terabliz University in Libya and King Abdul Aziz University in Saudi Arabia. He dedicated over 22 years to the latter as a Professor, enriching the academic landscape with his expertise.

In 2005, Saleemi returned to Islamabad, marking a significant chapter in his career by joining Air University as a Professor of Mathematics and Dean of the Faculty of Science and Humanities until 2012.

His contributions to mathematical research and academia extended beyond borders. Notably, his collaborative paper with T.J. Willmore on the total absolute curvature of immersed manifolds, published in the Journal of the London Mathematical Society in 1966, represented a seminal contribution to the field, expanding on Chern-Lashof's renowned work on the curvature of immersions.

Throughout his illustrious career, B.A.Saleemi's passion for mathematics, dedication to teaching, and pioneering contributions to mathematical research have left an enduring legacy in the academic realm, inspiring countless students and fellow mathematicians alike.

B.A. Saleemi, a distinguished mathematician and educator, solidified his legacy not only through his academic endeavors but also through his influential contributions to the literary landscape of mathematics. Among his notable achievements were the authorship of two influential books: "Concept of a Set" and "Introductory Set Topology."

"Concept of a Set" stands as a cornerstone in the realm of mathematical literature in Pakistan. This work meticulously explores and elucidates the fundamental principles and applications of set theory, providing a comprehensive foundation for students and enthusiasts delving into this critical branch of mathematics.

Similarly, "Introductory Set Topology" emerged as another beacon in the field of mathematics. With a pedagogical approach, Saleemi crafted this book to serve as an entry point for students and mathematicians aspiring to grasp the essential elements of set topology. This work not only introduces the key concepts but also navigates readers through the foundational aspects of topological spaces, offering a solid framework upon which further exploration and understanding of this branch of mathematics can be built.

Saleemi's adeptness in synthesizing intricate mathematical theories into accessible and comprehensible content within these books has rendered them invaluable

resources within academic circles. The clarity of explanation and depth of insight presented in both "Concept of a Set" and "Introductory Set Topology" attest to Saleemi's prowess as an educator and an authority in the realm of mathematics, cementing his reputation as an influential figure in the field. These publications continue to serve as guiding lights, shaping the understanding of sets and topology for students and mathematicians in Pakistan.

Saleemi's adeptness in presenting complex concepts in a lucid manner has made him popular and beloved lecturer. His lectures on Topology, Homotopy, and Differentiable Manifolds guided students through the intricate world of sets with clarity and precision.

His efforts in introducing set topology and manifolds in Pakistan was acknowledged by awarding 2nd Pakistan Mathematical Society Medal in 2014.

Legacy of Room 29, Mathematics Department Quaid-i-Azam University, Islamabad

Atika Khalid
Assistant Professor, Government Associate College, Sargodha

Certain places, buildings or paths are associated with the deep and most valuable memories of your life. Whenever

you pass by these places consciously or unconsciously, those fascinating memories come to back of your minds. The good times gone by are sad and meloncholy.

My many such memories are connected with Quaid-i-Azam University, Department of Mathematics, Room 29.

I still remember when I entered Quaid-i-Azam University for the first time in 2010. At that time, the buildings of every department of the university were more or less the same, specific designs made on cement, which had no paint on them but were still fascinating. The inner walls of the building were rough, from which it was possible to keep a little distance after entering so as to avoid damaging my *dupatta* against the rough surface of the concrete walls.

I was supposed to go to this room for interview as one of the requirements for admission in M.Phil. As I entered the room, I saw Dr. Tariq Shah, Dr. Aslam were seated on one side and Dr. Shabbir on the other side table. All three had a serious look on their faces. This was my first interview at any institution or organi- zation. I was nervous, my heartbeat was so fast that it seemed that the sound would be going out of my ears, in such a situation,

however Professor Qaiser Mushtaq's smiling face was felt as a big relief. I sat on the chair in front of the head chair on which Professor Mushtaq was sitting as a Chairman of the Committee. As soon as settled down, he asked a few non-curricular questions in a very polite manner. His satisfied face gave me encouragement and I went on answering the questions of all the other teachers. I consider getting admission in Quaid-i-Azam University as the first important achievement of my life, and the second important achievement was completing my M.Phil. thesis under the guidance of Professor Mushtaq.

Room 29 was reserved for Professor Mushtaq, where all the students of the department, pure and applied mathematics, would comfortably come to the room/office and explain their problems, and find solutions to their problems as much as possible. Professor Mushtaq has always fought against the cartels. He always stood by the right side of the issues. For instance I remember when the then Chairman of the Department, Professor Q.K.Ghori, opposed convening of a series of lectures by Professor Graham Higman FRS to a conference in Pakistan. Professor Mushtaq single-handedly fought against all the opposition and managed to overcome the obstacles. He was known and liked by the students for his courage and

steadfastness against oppressive and academically unconducive environment in the department. He never compromised on his principles despite politics of personal vendetta prevailing in the department.

Since we were Professor Mushtaq's research students, we used to spend most of our time in the same room. In the seminars held every week, not only mathematics but also research and researchers were discussed. In the same room, he organized several International Pure

Mathematics Conferences (IPMC) and also laid the foundation of Pakistan Mathematical Society (PakMS) which has now become an international mathematical representative of Pakistan.

Room 29 was a reflection of his sublime taste, with pictures of Oxford Colleges, plaques of his mathematical genealogy, Oxford University and Massachusetts Institute of Technology on the walls, rows of beautiful wooden shelves, nicely arranged furniture meeting requirements

for the weekly seminar arrangement. In short it was a room depicting taste of a classical scholar and an intellectual.

A month ago, I visited the university in search of those memories. The first shock I got when I stepped into the department. Right at the entrance big sized pictures of handpicked eminent persons who were related to the Pakistan in one way or the other were overwhelmingly displayed. The selection of these was based on a personal choice of the then chairman of the department. The impression of a department of a university of an international repute was distorted and I wondered what it was that made this childish act necessary. I felt as if I have entered a Primary or Secondary levelled school of a village or a small city of southern Punjab.

Not only that, but when I opened the door of Room 29, I saw that small cabins had been built inside. The mood and impression of the room had been completely changed. It seemed that the act of vengeance took over the management - a *Sheesh Mehal* was converted into a stable. History of Lahore Fort came to my mind when Maharaja Ranjeet Singh besieged Lahore. All this is certainly would be painful for many former students who have seen Room 29.

But I will be proud to belong to the era of the department which saw Room 29 inhabited.

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Astromathics: First Mathematics Research Journal Published in Pakistan

Professor Muneer Ahmad Rashid
NUST - Centre for Advanced Mathematics and Physics, Campus, College of E&ME, Rawalpindi.

Many of us are not aware of the first Mathematics research journal in Pakistan. This journal was named Astromathics and was edited by (Late) Professor Anjum Roomani of the Dyal Singh College, Lahore. Its first issue appeared in 1956.

I was then a student of M.A (Mathematics). The students of M.A (Mathematics) were admitted by different colleges affiliated to the Punjab University and were taught together in the Punjab University old campus. The teachers were recruited from colleges to come to the University and teach the M.A (Mathematics) students without any financial reward. This is how I met Professor F. D. Anjum Roomani. He taught us Real Analysis.

I used to read American Mathematical Monthly regularly and tried to solve the problems in it, both elementary and advanced. My solution to one of the advanced problems appeared in the Journal. A problem of mine also appeared in the problems section of the Journal.

Professor F. D. Anjum Roomani was interested in promoting mathematics. Having seen my interest, he thought of starting our own research journal. The first issue of the journal named Astromathics appeared 1956 and was edited by Professor Roomani, who was also its proprietor.

Professor Roomani graciously allowed me to assist him in simple editing jobs like proof-reading, improving of the language and style of the submitted manuscripts. The journal followed the format of the American Mathematical Monthly.

I remember with deep appreciation the efforts Professor Roomani made, essentially all alone, to get the journal registered with the authorities. To get a press to publish it was also a monumental effort as, in those days, the publication of mathematical material was not easy.

I do not know how long the journal continued. Since many of us have not seen it, it must have died after a few years. Later in his life, Professor Roomani started another journal Mathematics Forum. This journal also ceased publication after a few issues with the sad demise of Professor Roomani.

At present, the Government College University, Lahore and Punjab University, Lahore are publishing their research journals regularly. These are, unlike Astromathics, sponsored by institutions.

I wish to put on record this very modest attempt by a devoted mathematician and would like the mathematics community to honour Professor Roomani posthumously. He never sought any laurels for himself for his efforts. He was simply interested in promoting interest in mathematics.

Having migrated from India, Professor Roomani had no resources of his own to improve upon his qualification and being in a private institution could not benefit from an official sponsorship. However, he was a beacon of light for all those who wished to do research in hard-core mathematics. I can never forget his contribution in launching Astromathics, the first mathematics research journal.

Professor Muhammad Irfan Ali

Professor Muhammad Irfan Ali born on August 13, 1966, in Wazirabad, retired as Principal of Islamabad Model College for Boys I-10/1, Islamabad, on January 1, 2024. He earned his BSc and MSc from PU, followed by an MPhil and PhD from QAU in 2010 under the supervision of Prof Muhammad Shabir Bhatti. Throughout his career, he co-supervised three PhD students and 21 MPhil students.

In addition to his academic achievements, Professor Ali made contributions to social services, including his involvement in the development of the Single National

Curriculum and serving as a departmental representative at the Federal Public Service Commission. He co-authored 83 research papers on various fuzzy sets and was recognized as a Productive Scientist by the PCST for six consecutive years.

Beginning as a lecturer in 1995 at Government Post Graduate College, Asghar Mall, Rawalpindi, he later joined IMCB, eventually becoming Professor and Principal in December 2021.

Professor Ali's research interests expanded from his MPhil dissertation on "Rings Characterized by their Fuzzy Ideals" to his PhD thesis on "Some contributions to soft semigroups and related structures."

A member of various editorial boards and reviewer panels, Professor Ali's expertise extended to publications such as the IEEE Transactions on Fuzzy Systems, Information Sciences, and Applied Mathematics letters.

Throughout his career, Professor Ali played roles in academia, including establishing the Department of Mathematics at COMSATS, Attock Campus, and serving as Convener of Mathematics Curriculum review committees.

PakMS Awards Honours Professor Khwaja Masud

In a solemn investiture ceremony held on January 19, 2024, at the Banquet Hall of the Islamabad Club, the Pakistan Mathematical Society (PakMS) bestowed its 8th esteemed medal to an eminent mathematician posthumously. The 8th PakMS Medal was awarded to the Late Professor Khwaja Masud in recognition of his outstanding contributions to the fields of politics, philosophy, history of science, and mathematics.

The ceremony, attended by members of the Society, saw the sons of the late Professor, Dr. Khwaja Yuldrum (an outstanding Physicist) and Dr. Khwaja Sarmad (an esteemed Economist), receive the prestigious award on behalf of their beloved father. The citation in honour of Professor Khwaja Masud was read by Emeritus Professor Qaiser Mushtaq of Quaid-i-Azam University, former Vice Chancellor, and Founding President of the Pakistan Mathematical Society. The citation highlighted Professor Khwaja Masud's luminary status, describing his profound impact on multiple fields and his influential engagement with students over three generations.

Professor Khwaja Masud's exemplary leadership and dedication to academia were emphasized, noting his role as a guiding force for aspiring students since 1944. His commitment to fostering a vibrant educational environment was acknowledged, with special mention of his catalyzing influence on intellectual growth within the mathematical community.

Beyond scholarly publications, the citation emphasized the late professor's ability to communicate intricate concepts with clarity and enthusiasm, leaving an indelible mark on the minds of students and colleagues alike. His posthumous receipt of the PakMS Medal serves as a testament to his exceptional contributions to various branches of knowledge, particularly mathematics.

The award recognizes Professor Khwaja Masud's inspiring personality, which cultivated a dedicated mathematical community in Pakistan. His lectures and articles were highlighted as pivotal in shaping the intellectual landscape, creating a lasting legacy that continues to fuel a passion for rationalism among students and colleagues.

The PakMS Medal stands as a symbol of Professor Khwaja Masud's intellectual prowess and enduring impact on the mathematical community in Pakistan, cementing his status as a revered figure in the annals of enlightenment.

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Decades of Discourse: The Legacy of the Weakly Seminar Series, Mathematics Department, Quaid-i-Azam University

The Weakly Seminar Series, established in 1984 under the leadership of Professor Asghar Qadir, then Chair of the Department of Mathematics at Quaid-i-Azam University, originated from the vision of fostering academic discourse. Dr. Qaiser Mushtaq, as Assistant Professor, was entrusted with inaugurating the series, which commenced in the summer of 1984. Since its inception, the series has consistently organized seminars series, numbering from I to LXXVI (76).

The following have served as coordinators throughout its history:

- Dr. Qaiser Mushtaq: 1984 - 1990
- Dr. Ismat Beg: 1990 - 1993
- Dr. M. Ziad: 1994 - 1999
- Dr. Khalid Saifullah: 2000 - 2006
- Dr. Masood Khan: 2007 - 2012
- Dr. Tayyab Kamran: 2013 - 2014
- Dr. W. Mahmood: 2014 - 2016
- Dr. Maria Samreen: 2017 – Present.

64th National Seminar of PakMS

Pakistan Mathematical Society

Requests the pleasure of your company at the

National Seminar
On
Historical Development
of
LA-Semigroups

Muhammad Toheed Jillani

Friday, 12th January 2024 at 03:30 PM

At

Microsoft Teams Video Link

https://teams.microsoft.com/l/meetup-join/19%3ameeting_YjE4MzllMWMtNjA5MS00OGVhLWE0YjItMTdkN2I2ODMzZTMz%40thread.v2/0?context=%7b%22Tid%22%3a%2275df096c-8b72-48e4-9b91-cbf79d87ee3a%22%2c%22Oid%22%3a%2219d813a8-6f5a-4132-8da0-9a3d650158a3%22%7d

Muhammad Toheed Jillani, holds a BS degree from Government Sadiq Egerton College and an MPhil from Quaid-i-Azam University. He is presently engaged in a PhD programme under the guidance of Emeritus Professor Qaiser Mushtaq at Quaid-i-Azam University. Jillani's teaching journey extends from being a visiting lecturer at the Islamia University of Bahawalpur to his current roles at Quaid-i-Azam University and DAKSON Institute of Health Sciences.

His recent exhaustive research on the development of Left Almost Semigroups since its introduction gives a comprehensive view of the algebraic structure. Jillani's talk is non-technical and of general interest for mathematicians.

www.pakms.org.pk

Quart	Month	PakMS Activities in 2024	Date
1	Jan	Executive Council's Meeting # 115	04.01.2024
		PakMS Newsletter Issue No.1, Vol No.7, 2024	01.01.2024
		National Seminar # 64	05.01.2024
2	April	Executive Council's Meeting # 116	05.04.2024
		PakMS Newsletter Issue No.2, Vol No.7, 2024	02.04.2024
		National Seminar # 65	12.04.2024
3	July	Executive Council's Meeting # 117	05.07.2024
		PakMS Newsletter Issue No.3, Vol No.7, 2024	02.07.2024
		National Seminar # 66	12.07.2024
		24^{th} International Pure Mathematics Conference 2024	29.08.2024 to 31.08.2024
4	Oct	Executive Council's Meeting #118	04.10.2024
		PakMS Newsletter Issue No.4, Vol No.7, 2024	02.10.2024
		National Seminar # 67	11.10.2024