

Qazi Ibadur Rahman, 1934–2013

Qazi Ibadur Rahman was born in 1934 in Deoria in the Province of Uttar Pradesh (India). The English notions of *christian name* or *first name* and *last name* in their literal sense did not really suit for an Indian Moslem and so he became known in the Western world under the name Rahman, which was really his given name, while Qazi was his family name. When Rahman was a school boy, he was considered as a wunderkind in mathematics in his district. Already before having reached the age of 15, he was admitted to the University of Allahabad for studying Mathematics, Physics and Chemistry. He graduated with a Bachelor's degree in 1951 and with a Masters' degree in 1953. The same year, at the age of 19, Rahman became Lecturer at the Aligarh Muslim University where he stayed till 1961. In 1956 he was awarded his first Ph. D. in Mathematics, his adviser being S. M. Shah. In 1957/58, he took leave for 15 months and went to the Northwestern University in Evanston (Illinois) as a Research Associate to study with R. P. Boas. From 1959 to 1961 Rahman again took leave and went to the Imperial College in London to acquire a second Ph. D. in Mathematics, his first adviser being Jim Clunie and his second Walter Hayman. Incidentally, he was Clunie's first Ph. D. student.

From 1961 to 1965 Rahman was Head of the Mathematics Department at the Regional Engineering College in Srinagar (Kashmir), except for the entire year of 1963 which he spent again at the Northwestern University in Evanston. In 1965 he joined the University of Montreal and remained there till the end of his life. He never retired.

Rahman's central field of research comprised polynomials and entire functions of exponential type. After R. P. Boas had passed away in 1992, he became the most prominent expert for the latter class of functions. His particular fields of interest were extremal problems. By utilizing tools from other areas such as variational principles, optimization techniques, subordination principles, duality principles and subharmonic functions, he obtained numerous sharp results that gave a final answer to certain interesting and important questions. Rahman's research portfolio is truly impressive. During a career that spanned 58 years, he published 195 papers and three books.

Q. I. Rahman was very inspiring for students since he slowly and patiently explained his ideas. At the University of Montreal, he had 14 Ph. D. students. At least eight of them became professors at a university or a college. A fifteenth student had completed his thesis but could not defend it while Rahman was alive.

Rahman's scientific activities were supported by grants of the National Research Council of Canada. For some periods, his level of funding was the highest among all Canadian mathematicians. He was very careful in using such support efficiently, enabling him to invite many famous people in his field to learn from them. One of the authors (GS) had the pleasure to meet mathematicians such as R. P. Boas, P. Erdős, A. Gončar, W. Hayman, P. Turán and A. Zygmund at Rahman's place and to profit from their lectures. For a period of about 20 years, Paul Erdős was a visitor nearly every year. Rahman also supported stu-

dents and gave a chance to young promising scientists by inviting them to do research with him. In particular, at a time when the world was divided into two parts—East and West—he did not hesitate to invite young people from communist countries such as Poland, Bulgaria and Hungary. It is remarkable that Rahman held a research grant of the National Research Council of Canada for 48 years consecutively till his death, without any interruption.

In 1984 the University Marie Curie-Skłodowska (UMCS) in Lublin (Poland) awarded an honorary doctoral degree to Q. I. Rahman not only for his scientific work but also for the contacts between UMCS and the University of Montreal that he had established. He was the second mathematician to receive this honor from UMCS.

In 1965, Rahman married Imtiyaz Fatima from Lucknow. They had two sons Amer and Mujtaba, the elder son Amer being himself a professor of mathematics. A stroke of fate met Rahman, when his beloved wife died all of a sudden in 2001. Again he was very sad when he learnt that his esteemed teacher Jim Clunie passed away in 2013. In June 2013, he went with his son to a conference in Shantou (China). The day they arrived, Rahman had a fall and was brought to hospital suffering from severe brain trauma which led to a deep coma. After five weeks in China, he was brought by an ambulance airplane to Montreal where he died on July 21, 2013 exactly 43 days after his accident.

Jim Clunie and Q. I. Rahman were not only teacher and student but also very close friends, both known for their generosity and warm hospitality. When they met each other in London, York or Montreal, it was natural that the visitor lived in the host's house. Rahman's son Amer remembers that in 1971, when he was five years old, the entire Rahman family comprising four persons stayed in Jim Clunie's little house in London.

One of the authors (GS) had the privilege to work with Q. I. Rahman for a period of about three decades starting in 1972 when he came to Montreal as a Postdoctoral Assistant. He visited Montreal 26 times. The collaboration resulted in 44 joint papers, two joint books and a deep friendship. At most of his visits, GS lived in Rahman's house and was treated like a family member. In particular, he enjoyed the delicious Indian dishes prepared by Mrs. Rahman. Of course, Rahman also visited GS in Erlangen. A few days before Rahman left for the tragic journey to China, he phoned GS and spoke to him for an hour. In retrospect it was as if he knew about his fate and wanted to say Good Bye forever. GS is very sad for having lost one of his best friends.

We want to thank Rahman's son Amer for having provided some material on his father and proof read this biographical note.

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