

## Letter from George Gasper, read at memorial dinner for Mizan Rahman during the January 2016 AMS winter meeting in Seattle

Mizan and I started corresponding on research problems involving special functions after we met at the January 1976 meeting of the American Mathematical Society in San Antonio. As an example of some of our correspondences, I've [attached scanned copies of a few of our early 1980 letters](#) concerning Mizan's work on the derivation of nonnegative single series representations of the the linearization coefficients of the product of Jacobi polynomials and of the product of continuous  $q$ -Jacobi polynomials. Eventually our correspondences led to our 1983 papers on nonnegative kernels in product formulas for  $q$ -Racah polynomials and on the positivity of the Poisson kernel for the continuous  $q$ -ultraspherical polynomials, and then to subsequent papers. It was tiring and time consuming to repeatedly search papers for known formulas involving basic hypergeometric functions that were not contained in either Bailey's or Slater's books. Frustrated with this tedious process, Mizan suggested in 1982 that we should write an up-to-date book on basic hypergeometric functions. In order to speed up our research we frequently visited each other to work together in Mizan's office at Carleton University (Ottawa, Canada) and in the dining room of my home in Wilmette, Illinois. Other than short breaks for meals, and his exercise swims when we worked in Ottawa, only one occasion comes to mind when Mizan broke our work routine at my house: he kindly showed my wife how to prepare the spices for his favorite curry dish. Otherwise, Mizan made sure we kept our noses to the grindstone. Little did we realize that due to an expansion of published papers in the field, our book *Basic Hypergeometric Series* would grow in size so rapidly that it would take us eight years to complete the first edition, another fourteen years to complete an expanded second edition (including additional chapters on generating functions,  $q$ -series in two or more variables, and on elliptic hypergeometric series), and that it would become a highly cited classic. In his research, Mizan published many amazing useful formulas and significant results on  $q$ -series, orthogonal and biorthogonal polynomials, and other special functions. When I asked him why he worked so hard, he said that it was his way of thanking Canada for letting him and his wife become immigrants.

In a Jan. 2, 2014 email to me Mizan wrote "I'll probably have a surgery on my chest sometime soon to replace a valve that has been causing a lot of problems of late. No, I'm not worried — whatever will happen will happen." Later, when I telephoned him at his home, he told me that, unfortunately, his doctors told him that they would not be able to do the surgery since, because of his age and health, they did not think that he would be able to survive the surgery. As he stated above, he was not worried "— whatever will happen will happen." He'd try to live life as fully as possible, which he was clearly doing during his Keynote Speech celebrating Victory day of Bangladesh.

Mizan was a humble, soft-spoken gentleman, who was a dear friend to me and to many of his colleagues. He will live on in his writings and in our memories.

George Gasper