**Continued excellence**

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Within the boundaries of the University of Karachi exists an institution that has stood out as an island of unparalleled excellence in the developing world – the International Center for Chemical and Biological Sciences (ICCBS).

The foundations of the institute were laid by late Prof Salimuzzaman Siddiqui in a humble beginning within a section of the Department of Chemistry at Karachi University in 1967. Soon thereafter, I returned from Cambridge after nine years of PhD and postdoctoral training. Prof. Siddiqui, who was already about 75 years old, appointed me as co-director and assigned me the task of developing a top-class centre of excellence. What followed was nothing short of a miracle for a developing country like Pakistan.

There was little funding available with the government of Pakistan, so we aimed at winning major international level funding by submitting excellent projects of the highest standard. Over the next 20 years, huge grants were won from Germany (4.8 million DM), Japan (2.3 billion Japanese Yen), USA (8 million dollars) and UK (one million pounds), along with a large number of sizeable grants from other international agencies. With these funds and support from the Pakistan government, the centre became highly advanced in its facilities, which were better than those available in most universities in the US or Europe. The research environment created allowed research work of the highest standards to be pursued and the institute became famous all over the world as a true beacon of excellence.

A distinguishing feature of this institution is that it is a public-private joint venture. The late Mr Latif Ebrahim Jamal gave a magnificent grant back in the early 1970s with which the present buildings of the Husein Ebrahim Jamal (HEJ) Research Institute of Chemistry were built. This was followed by another wonderful donation by Nadira Panjwani sahiba and the Dr Panjwani Center for Molecular Medicine and Drug Research (PCMD) was created in her father’s name.

Subsequently, the Latif Ebrahim Jamal National Science Information Center and the Latif Ebrahim Jamal Nanotechnology Center were also built with support from the HEJ Foundation. Today, the centre has over 20 research buildings with over 500 students enrolled for PhD in various fields of organic chemistry, biochemistry, molecular medicine, genomics, biotechnology, nanotechnology, spectroscopy and other fast emerging disciplines.

An eminent German professor made seminal contributions to the development of this center – Prof Wolfgang Voelter of the University of Tubingen. It was through his efforts that the first German grant materialised and a strong collaboration was established with various German laboratories that continues to this day. A large research building, the Prof Wolfgang Research Laboratories, in the ICCBS is an everlasting tribute to his contributions. The outstanding contributions of late Prof Viqar Uddin Ahmed and late Prof Zafar Zaidi helped lay the foundations of a strong research institution in the first three decades.

Over the years it has been visited by many Nobel Laureates, and they have been stunned by the quality of scientific research that is being pursued in this center. Commenting on my humble contributions in building a research environment in ICCBS, Japanese Nobel Laureate Prof Riyoji Noyori wrote: “I have followed Prof Rahman’s activity over two decades with immense respect. He has made a brilliant contribution to the area of nuclear magnetic resonance spectroscopy. His accomplishment is not limited to his own original scientific work…. His contribution has been recognised by many national and international awards which include the Unesco Science prize in 1999”.

Prof Herbert C Brown, the Nobel Laureate and father of Boron chemistry at Purdue University, USA wrote: “Under Prof Rahman’s able guidance, this institute has become one of the finest in the world, in terms of facilities, the quality of work and the scientists it produces”.

I left the leadership of the centre in 2000 when I was appointed as federal minister of science and later as chairman of the HEC. Since then it has been very ably led by a top scientist of Pakistan, Prof Iqbal Choudhary, who has taken it to new heights through his creativity, dedication and hard work. In the coronavirus crisis, the institute rose to the occasion by performing 3,000 tests daily.

The changes in the genetic structure of the virus were monitored regularly at the Jamilur Rahman Center for Genomics Research built in my father’s name from my personal grant. The National Center for Virology was built within the ICCBS in a timely manner, before Covid-19 attacked the world. Clinical trials on the Sinopharm vaccine were first carried out in the 120-bed hospital located within the ICCBS. More recently, clinical trials were also completed on highly effective herbal capsules of Chinese origin.

After a vigorous international competition, the institute was selected as The World Academy of Science (TWAS) Center of Excellence. TWAS was established in Trieste, Italy, by our own Nobel Prize winner Prof Abdus Salam, and TWAS has been sending students to the ICCBS from all over the world for PhD and postdoctoral training for the last four decades. The institute was also selected by the WHO as the WHO Collaborating Center for Pesticide Analysis.

After a highly competitive selection process, it was selected as the OIC Center of Excellence in Chemical Sciences. It was also selected as a Unesco Center of Excellence and many foreign students are sent by Unesco for training to the centre each year. Its faculty members have won many international honours including more civil awards and international prizes than any other academic centre in Pakistan, including one Nishan-e-Imtiaz, four Hilal-e-Imtiaz, 13 Sitara-e-Imtiaz, eight Tamgha-e-Imtiaz and many honorary doctorate degrees from top foreign universities including the University of Cambridge, UK.

Two professors of the institute (Prof Salimuzzaman Siddiqui and I) have been elected as fellows of the prestigious Royal Society (London); only five scientists have won this honour from the Muslim world in the last 360 years. Prof Iqbal Choudhary recently won the Mustufa (pbuh) Prize from the Islamic Republic of Iran. Various German universities have been sending their students for PhD level and post-doctoral training all the way to Pakistan and over 100 German students have been trained in this gleaming island of excellence which has been visited by many presidents, prime ministers, and army chiefs.

The reasons for its success are many. The most important are a committed outstanding leadership, high-quality faculty that has to perform with very rigorous key performance indicators, excellent technical staff that can operate and maintain sophisticated instruments and constant external critical peer review of its operations, so that the unending strive for excellence can continue.

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