

Tributes Received in Honor of M. Sam Mannan

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Published online in Wiley Online Library (wileyonlinelibrary.com). DOI 10.1002/prs.12026



Dr. M. Sam Mannan was a great promoter of Chemical Process Safety. He was friendly, playful, respectful, and supportive to everyone he encountered. Upon his death, heartfelt tributes from his students, his friends, and his colleagues both in the United States and internationally came pouring in. There was not sufficient space to accommodate them all; however, below is a selection. Several tributes below were initially posted on the Hillier Funeral Home Tribute Wall. © 2018 American Institute of Chemical Engineers Process Saf Prog 37: 448–451, 2018

Dr. M. Sam Mannan's Indelible Impact on the Center—by T. Michael O'Connor

Sam Mannan was a great friend and colleague. I am grateful for what he accomplished in building the Center. It is a great memorial to Mary Kay and Dr Mannan's legacy.

When he came to the Mary Kay O'Connor Process Safety Center in 1997 we had a concept of what needed to be done but little else. Process safety was not recognized as an academic field of study. We had no students, only a few members and limited interest by most of the faculties.

Things are far different today. We have 150 alumni and about 70 current graduate students. These students are by far the valuable result of the Center. They, I believe are shaping

the future of process safety. Almost all go into industry and their careers are closely associated with safety.

We also have many generous stakeholders. They include the corporate members, volunteers on advisory committees, those who help with the symposium, continuing education instructors, faculty fellows, Texas A&M administration, and the alumni. While we have suffered a great loss we are confident that the process safety community will unite to help us through this transition and the Center will emerge and prosper.

I thank Sam's family for the support they gave him and the sacrifices they made while he worked tirelessly to enhance the profession of process safety.

T. Mike O'Connor (Husband of the late Mary Kay O'Connor) and Research Associate on the Executive Staff of the Mary Kay O'Connor Safety Center.

Dr. M. Nazmul Karim the Head of the McFerrin Chemical Engineering Department of Texas A&M and Close Friend of Dr. Mannan

Dr. Mahbubul Shaymal Mannan was a friend of mine. He died on September 11, 2018. It is one of the saddest days of my life, not because it was an anniversary of "9–11" but because the world lost a great fighter and proponent of safety in industries, whether it is for process safety or safety in garment factories, or on space shuttles. Sam was always advocating and teaching the next generation how to minimize accidents and develop a safety culture so that safety becomes

a second nature to us. I will try to paint a picture and not write a history about Sam's contribution to the society.

Sam was born in Noakhali, a southern district in Bangladesh. His high school education was from Dhaka College, and his BS in Chemical Engineering was from the Bangladesh University of Engineering and Technology, Dhaka, better known as BUET. He studied Russian and Arabic as hobbies. He later took a job in Libya and spent few years as a practicing engineer. Then, he realized he needed a graduate education; he went to the University of Oklahoma and studied Thermodynamics. He became a life-long Sooners supporter! He got his PhD studying under Professor Kenneth E. Starling. It is at this time he observed the lack of safety training among engineers and managers. He joined RMT, Inc. in Austin, Texas and started working in Process Safety. He left RMT to join Texas A&M University as the Director of the newly created Mary Kay O'Connor Process Safety Center in 1997, and thus began a journey in Process and Industrial Safety that is unparalleled in the world.

I do not have to tell you that Sam Mannan is known all over the world; whether it is in China or India or Malaysia or Colombia or Bangladesh or Qatar, he has left his foot-print everywhere by creating satellite MKO Centers in these places in his effort to change the safety culture in these countries. He was the go-to person in the US Congress, whenever there was an accident in the US (e.g. West, Texas). He was involved in the analysis of the accident in a garment factory (Rana Plaza) in Dhaka, Bangladesh in 2013 that killed over 1,134 people. His recommendations have now been followed by the Government of Bangladesh.

Sam has trained 61 PhD students and 79 MS students in his career at Texas A&M University. This is more than prolific by any standards. His teachings, mentoring, and training of these students will have a life-long impact on the safety practices in various chemical and other industries. These impacts are permanent. Countless lives will be saved.

Sam loved his family, in particular his two daughters, Rumki and Joya. He would tell all kinds of stories about how they grew up, and what they did as children and as young adults. Whether playing soccer, or watching Aggie Football, he shared his life with them.

Personally, Sam was a friend, a great friend. Not only a buddy to watch Super Bowl with, but also to have deep conversation about life and what "it" is all about. Alas, before we could have another one of our deep conversations, he was gone! He is gone forever. I can only quote Tagore, our favorite poet, "Beyond the bounds of life and death, there you stand, Oh! My friend!" He is watching us, a tall figure, wherever he is now! I know I feel safe because of his contributions to the world.



Sam with M. Nazmul Karim in 2012.

Jack Chosnek, PhD, PE, President and Principal, Knowledge One

Neither the word "World" nor the word "Giant" are exaggerations. Dr. Sam Mannan, Director of the Mary Kay O'Connor Process Safety Center (MKOPSC), had a tremendous impact on spreading process safety, not only in the U.S. but across the globe. The MKOPSC and its work are well known in numerous countries where Sam forged alliances with government agencies, universities and institutes in order to advance process safety. This is reflected in the creation of a sister Process Safety Center in Qatar, agreements with a Colombian university for joint programs, a special collaboration relationship with Great Britain's IChemE, relationships with companies and government bodies in China, Poland, The Netherlands, Taiwan, Bangladesh, India, and others. In the United States he gave lectures and talks about process safety in every technical forum imaginable (and some nontechnical), testified in front of Congress on the subject, and made himself fully available to the press when necessary to defend and promote process safety, such as when the *Houston Chronicle* had a series on the chemical industry and its failings.

I knew Sam for 25 years, from before the MKOPSC, but our friendship grew when I joined the MKOPSC's Technical Advisory Committee, to which he later appointed me as Chair. That gave me the opportunity to have much more interaction with the Center's students, who are some of the brightest that I have seen, and that he attracted from all over the world. Sam had that knack, of not only making friends with people from all disciplines and all levels, but of making them true believers of process safety, and instilling in them some of the passion for it that he had. His intent in bringing in students from so many countries was not just to grow the ranks of the Center, but to have them go back to their countries and use their gained expertise to implement process safety back home. His message to all of us was that we cannot minimize risk in our developed countries by exporting that risk to less developed countries, that is, build plants elsewhere at lower cost because of lower standards of safety.

I will not talk about all the honors, recognitions, and accolades that Sam received because that would take many pages. More important are his achievements in spreading process safety by teaching and giving talks, by creating alliances with industry to bring in practicality, and by involving other industries and disciplines besides the traditional ones.

He will be sorely missed.

Dr. Hans Pasman-TEES Research Professor—Emeritus Professor, Delft University of Technology, the Netherlands

It was never difficult to distinguish him from a distance. His appearance at the Barcelona Loss Prevention Symposium in Spain in 1998, I shall not forget, although the Mary Kay O'Connor Process Safety Center was still unknown and Sam did not contribute. In 2004, in Prague I saw him still towering above the crowd and he contributed on reactive chemicals a preferred topic of the Center. Over the years, the palette of topics diversified: inherent safety, various aspects of LNG safety, risk assessment, resilience, and with OESI's offshore came human factors and much more. In 2007 he proposed to me to stay twice a year for a while at the Center coaching students. At my first visit he asked me what was lacking. Without hesitation I replied: "permanent academic staff". Others would have responded the same. Finally, this year March he obtained green light to attract people, which created perspective for a better future, because the burden had been growing over time to become very heavy. The number of students had been on the increase and knowledge of process safety and risk management expanded so much! Sam was a people's man and I thank him for the many enjoyable moments somewhere in the world.

Dr. Adam S. Markowski: Technical University of Łódź, Poland

On the behalf of process safety community in Poland, I wish to express our great sadness and sorrow to hear about the death of Professor M. Sam Mannan, Director of the Mary Kay O'Connor Process Safety Centre and Regents Professor and holder of the T. Michael O'Connor Chair I in the Artie McFerrin Department of Chemical Engineering at Texas A&M University. Sam Mannan was great friend of Poles and his professional knowledge and activity caused the development of process safety program in our Technical University of Lodz as well as in whole Poland. He was awarded with the medal of honour and with title of Doctor of Honouris Causa of our University.

In his address at honorary degree ceremony at Technical University of Lodz September 21, 2011 he emphasized the support and encouragement he received from his professors (especially Prof Trevor Kletz and Mike O'Connor) and mentors as well as many students. He was "in love" with students and he provided them all possible assistance whenever it was needed. He was a humble man who truly believed that, "If you stop learning, you must already be dead." It was his message to students.

I will never forget his wonderful relations with my Polish students invited to the MKOPSC for development of specific research topics as well with myself receiving his outstanding support. His personal attitudes like directness, honesty, sense of humor, and good fellowship made him a wonderful person, friend, and beloved teacher.

Words cannot to express our sorrow and how sadly Sam Mannan will be missed in process safety community in Poland and all over the world. Finally, I would like to express my sincerely condolence to his wife Afroza Mannan and both their two daughters, Joya and Rumki. Your family will be always in my thoughts and prayers.

Sam Mannan—Process Safety Ambassador and Teacher. John F. Murphy, PE, CCPSC

The world will miss Sam Mannan who recently passed away. I know I will. I talked with him annually at the Loss Prevention Symposium and later the Global Congress for Process Safety at the Spring meeting of AIChE where we were both participants and contributors.



Sam receiving an honorary degree in Poland 2011.

I first met Sam in the fall of 1996 when I was looking for work after retiring early from the Dow Chemical Company. I was impressed by his outgoing, friendly personality. Fortunately, for me, as Vice President of RMT, Inc managing

the company's process safety business, he hired me as a project manager and I made the move from Lake Jackson, to Austin, TX. During the year and a half I was at RMT, I learned that Sam was knowledgeable and passionate about process safety. His reputation caught the eye of Texas A&M and in 1997 he was offered the job of Director of the new Mary K. O'Connor Process Safety Center (MKOPSC). As others will tell you, the rest is history. The MKOPSC has prospered under Sam's leadership and his reputation as an ambassador and teacher of process safety inspired process safety practitioners around the world. I will likely attend next year's Global Congress for Process Safety in New Orleans and will miss my conversations with Sam, but Sam's legacy will live on in the many attendees, former students and colleagues, who lives have been positively affected by Sam's passion for process safety. I will be one of those colleagues. Rest in peace Sam Mannan. Your legacy in process safety lives on.

Amazing Leader, Boundless Stamina, Powerful Voice and Gentle Heart: Roy E. Sanders

I had the pleasure of meeting my dear friend, Dr. M. Sam Mannan, several decades ago. I met him while he was just entering the AIChE's Loss Prevention world before his guiding efforts at the Mary Kay O'Connor Center. Early on and to this day he was playful, happy, powerful voice with a gentle heart and great people skills, who grew in professional stature every month.

His skills were those of a born leader. He was gifted in the way he could assemble, network and motivate those around him to be a cohesive passionate team member in their quest for Process Safety. I watched in amazement how he developed the Mary Kay Process Safety Center from a university forum into a premier world class organization.

During his untiring efforts to promote process safety to students, to agencies, to corporations, and to congress, he always had the time to be helpful, courteous and considerate. He often helped with McNeese State University in my city. He had a tremendous ability to focus on projects. He never lost focus on remembering and crediting those who were helping and to respect all of those around him.

My heart goes out to his wife Afroza and daughters Joya and Rumki, as well as the entire MKOC Family.



Jaime Tseng (Formosa Plastics), Sam and Roy Sanders in Taiwan.

Vic Edwards, Consultant - VHE Technical Analysis

The premature death of Dr. M. Sam Mannan was a great loss to all of us and to the community of process safety and chemical engineers. He was perhaps the best process safety engineer in the world and he was also a man of character. He

had a warm and outgoing personality. He was a great leader of the Mary Kay O'Connor Process Safety Center, and a great inspiration to students and to the process safety and chemical engineering communities.

A Tribute from Dr. Luc Vechot, Managing Director of the Qatar Branch of the Mary Kay O'Connor Process Safety Center

Dr. Sam Mannan was one of the most influential academic in the area of process safety. He genuinely made a difference in the industry through the activities of the Mary Kay O'Connor Process Safety Center (MKOPSC). I have personally had the privilege to work with Dr Mannan at the establishment of the Qatar branch of MKOPSC. I have witnessed his determination to spread his passion for process safety all over the world. I am losing a friend and a mentor. Let us continue his work and take it further.



Sam at the 2018 Qatar Process Safety Symposium.



Sam at a symposium stressing "making safety second nature."

Kathy Shell, aeSolutions

Sam was a friend and mentor to so many in process safety around the world. He inspired others because it came from his heart. We were honored to have him in our lives; and the fire he put there to do what is right in the world that we touch will continue on in all of us. My sincere sympathy to his family.

Szu-ying Huang former Graduate Student—2013

My deepest condolences. Dr. Mannan had numerous positive impacts on my life. He will always live in our heart. We will bring his earnest and valuable teachings to the world and keep supporting MKOPSC.

Yanjun (Jane) Wang—Graduate 2004

I must have done something good in my last life to be lucky enough to meet you and have you as my advisor and father. So many happy moments and sweet memories for the 8 years we spent together and after. You will always live in my heart.

N. K. Anand

Dear Sam: You lead, inspired, built, educated, and made a difference. Your legacy will live on. Rest in peace.



Sam working with his students.