



LRIGS Post Doctoral Fellow Dr Muhammad Arshad.

Dr Muhammad Arshad started his post doctoral fellowship in NSERC CREATE LRIGS program in fall 2015. He is originally from Bahawalpur in Pakistan's Punjab province. He completed his PhD in chemistry at the University of Karachi, in Pakistan. During his PhD program he won a prestigious, six month Canadian Commonwealth Scholarship to come to the University of Alberta for a work term. During this time he met Dr Aman Ullah from the Department of Agricultural, Food and Nutritional Science, his future LRIGS supervisor. Dr Ullah was impressed with his work and work ethic and, when Muhammad completed his PhD, invited him to Edmonton for a post doctoral fellowship.

During his first post doctoral fellowship with Dr Ullah, Muhammad was introduced to land reclamation and soon saw the need for solutions to many of the problems caused by human disturbance to landscapes and the environment. His first fellowship with Dr Ullah focused on rapidly converting oils into various monomers, work for which they have applied for a patent. He used a biopolymer to remove organic contaminants from oil sands processed waters and got good results.

Muhammad was accepted into the LRIGS program near the end of his first fellowship. He is working with Dr Ullah and Dr Tariq Siddique, another LRIGS researcher, to find a way to accelerate de-watering and consolidation of mature fine tailings left at the end of oil sands processing, which could take centuries if left alone. His new project focuses on using a biopolymer to densify the mature fine tailings.

When not tackling this research challenge, Muhammad enjoys spending time with his wife and 1.5 year old son. He reads a lot to keep informed of world events and the latest developments in his area of science. Muhammad keeps in touch with his friends and family in Pakistan through





Skype and email and has developed new friendships in Canada.

Looking back on his education and career, he recognizes the importance of the sacrifices and good moral foundation made for him by his parents which has brought him to the happiness he currently enjoys in his career and his life. Similarly, he was fortunate to have Dr Fatima Basha, his PhD supervisor, as a good mentor for him during his studies. Muhammad is grateful for the opportunities they have provided him.

His future plans involve continued work to find ways to apply chemistry to help solve some of the myriad of environmental challenges that exist in the world. He would be happy to remain in Canada but could return to Pakistan or other places in the Middle East. Regardless of his destination, he would like to find an academic position because he would enjoy the variety to his work life that both teaching and research would bring.