



Rozina GUL

Home Country: Pakistan

Degree: Postdoctoral in Agriculture

Expertise: Genetic and Molecular Analysis

Research Focus: LCOs and Chickpeas

Host University: Niigata University, Japan

Fellowship Awarded: 2015

Rozina Gul was born in Peshawar, Pakistan, and is the fourth of seven children. She always worked hard and tried her best to participate in academic and extra-curricular activities at school and college. Her mother was the prime source of support for Rozina's success at achieving a higher education in a society where many females do not even go to school.

Rozina studied at the department of Plant Breeding and Genetics at the University of Agriculture Peshawar, where in 1994 she obtained a BSc followed in 1997 by an MSc. She has been a lecturer at the University since 2002 and in 2017 was appointed as an Associate Professor. In 2010, she obtained a PhD for her thesis entitled "*Genetic and Molecular Analyses of Nodulation in Chickpea*". Much of the work was performed at Ehem University, Matsuyama, Japan, and was supported by Pakistan's International Research Support Initiative Program. In 2014, Rozina was selected by the state department of United States for "International Visitors Leadership Program (IVLP)" which was composed of visits to US leading universities and research institutes as well as meetings and sessions with higher officials of USAID.

The research investigated the gene expression analysis of chickpeas after application of lipochitooligosaccharides (LCOs), which are compounds secreted by nitrogen-fixing rhizobacteria that trigger changes in the roots of legumes. This research contribute a lot to chickpea genomics in regards to nod factor/LCO as microarray analysis of treated samples produce up-regulation and down-regulation in thousands of genes which include some very vital sets of genes like related to defense system, plant metabolism, transport mechanism etc. This project triggered a way toward new research in chickpea and wil worked as a foundation to explore the effect of LCOs on gene expression and yield associated traits in leguminous and non-leguminous crops. Dr. Rozina believes that the results of her research will contribute towards improving the quality and sustainability, both environmental and economic, of crops that fit better into the natural world and produce more with less.

Dr. Rozina expects that the intense and extensive training she received at Niigata University and the support provided by its world-renowned experienced scientists helped her to prepare a career in genetic and molecular studies. After completion of her studies she started her efforts to establish a laboratory for molecular research in her home university that will help feed the people of Pakistan.