

Dr Pushpender from Department of Biotechnology SGGSWU, Fatehgarh Sahib, A SGPC University has been awarded a patent for engineering a protein for its industrial applications. This patent was filed through Council of Scientific and Industrial Research and was awarded in India. The study was carried out by Dr Sharma during his PhD research work at Department of Biotechnology Panjab University Chandigarh under guidance of Prof. Jagdeep kaur of Department of Biotechnology PU, Chandigarh, and Dr Ranvir Singh Associate Professor at Department of Human Genome Studies and Research at Panjab University Chandigarh. The patent was filed in year 2010 and was awarded in Oct 2018 this year. The title of this patent is engineering of metagenome derive lipase. Dr Sharma told that the gene encoding lipase was cloned from metagenome source, functional characterization of the gene product results in protein that has shown less thermo stability and activity at high temperature (half life 60°C for 5 minutes). However, directed evolution of this gene in vitro resulted in mutant protein with change in single amino acid which showed enhanced thermo stability and catalytic activity at higher temperature (half life 60°C for 14 Hrs). It was interested to note that this protein with single mutation near the catalytic site resulted in enhanced thermostability and at the same time 20 fold increases in its catalytic activity. This engineered protein can be a prototype for biochemist and structural biologists to engineer thermostable proteins. The thermostable mutant proteins are sought in various industries that include detergents, oil industry, in pharmaceutical for separation of racemic salt, leather and food processing industries.

Department offers a healthy and cordial environment to students for both their academic and research activities. The Department of Biotechnology at Sri Guru Granth Sahib World University, Fatehgarh Sahib under the headship of Prof. C. Rajesh, a post doctorate from USA, in short span of time has got number of achievements and is establishing as renowned department in the region, seven students from this Department has already got admission for their PhD at various top university of USA and Canada with full scholarships. Several other students have been recruited by various companies that include the ten students of B.Tech Biotechnology by Verka, ten students of both B.Tech and M.Sc. Biotechnology in Paraxel Company.

Every faculty in the Department has received funds from funding agency like Science and Engineering Research Board New Delhi for doing research in frontier area of Biological sciences.