

**School of Biological Sciences  
University of The Punjab**

LIST OF PATENTS

Sr. No	Name of University	Name of Innovation	Name of Innovator	Is the Innovation patented ?	Who owns the patent? (in case the innovation is patented)	is the innovator interested in : (a) Selling the patent (b) Creating a company to sell the innovation (c) Getting support for an exiting company	Which of the following sectors does the innovation belongs to ?	Briefly describe how the innovation works.	Organizational Websites/Social Media Link (for the innovation)	Email ID	Contact Number
1	University of the Punjab	Single Step Liquefaction and Saccharification of Corn Starch Using an Acidophilic, -Calcium Independent and Hyperthermophilic Pullulanase.	Dr. Nasir Ahmad, Prof. Dr. Naeem Rashid, Prof. Dr. Muhammad Saleem Haider, Prof. Dr. Muhammad Akhtar	YES	Dr. Nasir Ahmad, Prof. Dr. Naeem Rashid, Prof. Dr. Muhammad Saleem Haider, Prof. Dr. Muhammad Akhtar	Interested to sell	1) Textile desizing 2) Production of glucose and maltose syrups 3) Production of fuel ethanol 4) Production of high protein flour	A novel thermo-acidophilic enzyme have been discovered which can efficiently hydrolyze starch into glucose and maltose syrups in a single step without addition of any metal ion as well as any other enzyme	<a href="https://patents.google.com/patent/US9340778B2/en">https://patents.google.com/patent/US9340778B2/en</a>	<a href="mailto:mna.sbs@pu.edu.pk">mna.sbs@pu.edu.pk</a>	92331-4408881
2	University of the Punjab	Process for recombinant protein expression	Faiza Saleem, Hyun-woo Park,	YES	Faiza Saleem, Hyun-woo Park,			Methodology for efficient recombinant protein expression	<a href="https://patents.google.com/patent/US2017018366A1/en?q=US2017018366A1">https://patents.google.com/patent/US2017018366A1/en?q=US2017018366A1</a>	<a href="mailto:arshakoori.sbs@pu.edu.pk">arshakoori.sbs@pu.edu.pk</a>	92333-4673255
3	University of the Punjab	Augmentation in bacillus expression system	Shagufra Naz, Abdul Rauf Shakoori	YES	Shagufra Naz, Abdul Rauf Shakoori	Selling the patent	Animal Husbandary	A recombinant nucleic acid encoding a protein exhibiting enhanced activity for milk production	Pakistan Patent No. 139216; Dated 18 Feb., 2007	<a href="mailto:mwa.sbs@pu.edu.pk">mwa.sbs@pu.edu.pk</a>	92300-4105823
4	University of the Punjab	A recombinant nucleic acid encoding a protein exhibiting enhanced activity for milk production	M. Waheed Akhtar, Saima Sadaf, Muhammad Altaf Khan	YES	M. Waheed Akhtar, Saima Sadaf, Muhammad Altaf Khan	Selling the patent	Pharmaceutical sector	Multi-epitope fusion antigens for the diagnosis of tuberculosis	Pakistan Patent No. 142466; Dated 15 September, 2017	<a href="mailto:mwa.sbs@pu.edu.pk">mwa.sbs@pu.edu.pk</a>	92300-4105823
5	University of the Punjab	Truncation and CBM engineering of CelZ.C of Thermotoga Sp. for improved biomass degradation	M. Waheed Akhtar, Saima Sadaf, Abdul Basit	YES	M. Waheed Akhtar, Saima Sadaf, Abdul Basit		Biofuel Industry	A polynucleotide comprising a nucleotide sequence encoding a fusion protein	Pakistan Patent No. 143046; date October 24, 2019	<a href="mailto:mwa.sbs@pu.edu.pk">mwa.sbs@pu.edu.pk</a>	92300-4105823
6	University of the Punjab	A non-naturally occurring enzyme comprising a nucleic acid sequence homologous with endoglucanase of Clostridium Specl	M. Waheed Akhtar, Ruqyya Khalid, Madeeha Afzal and Sana Khurshid	YES	M. Waheed Akhtar, Ruqyya Khalid, Madeeha Afzal and Sana Khurshid		Pharmaceutical sector	A polynucleotide comprising a nucleotide sequence encoding a fusion protein	Pakistan Patent No. 142886; Date: 8 May, 2019	<a href="mailto:mwa.sbs@pu.edu.pk">mwa.sbs@pu.edu.pk</a>	92300-4105823
7	University of the Punjab	A non-naturally occurring enzyme comprising a nucleic acid sequence homologous with endoglucanase of Clostridium Specl	M. Waheed Akhtar, Saima Sadaf, Shahzad Ali	YES	M. Waheed Akhtar, Saima Sadaf, Shahzad Ali		Biofuel Industry	A polynucleotide comprising a nucleotide sequence encoding a fusion protein	Pakistan Patent No. 142893; Dated 8 May, 2019	<a href="mailto:mwa.sbs@pu.edu.pk">mwa.sbs@pu.edu.pk</a>	92300-4105823
8	University of the Punjab	Recombinant thermostable endoglucanase (CelX) from Clostridium Sp. showing higher cellulolytic activity	M. Waheed Akhtar, Saima Sadaf, Shahzad Ali	NO			Enzyme Industry	Recombinant thermostable endoglucanase (CelX) from Clostridium Sp. showing higher cellulolytic activity	Pakistan Patent Application No. 694/2015; filing date October 29, 2015	<a href="mailto:mwa.sbs@pu.edu.pk">mwa.sbs@pu.edu.pk</a>	92300-4105823