

Naeem Rashid, PhD

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Date of Birth: March 10, 1962
Marital Status: Married
Nationality: Pakistani

Education:

1986	M.Sc Chemistry, Govt. College Lahore, University of the Punjab, Lahore, Pakistan
1989	M.Phil Molecular Biology, University of the Punjab, Lahore, Pakistan
1994	International Post Graduate University Diploma Course in Microbiology from IC Biotech, Osaka University, Osaka, Japan
1997	Ph.D Biotechnology from Osaka University, Osaka, Japan

Positions Held

2007-present	Professor , School of Biological Sciences, University of the Punjab, Quaid-e-Azam Campus, Lahore 54590, Pakistan
2004-2007	HEC Foreign Professor , School of Biological Sciences, University of the Punjab, Quaid-e-Azam Campus, Lahore 54590, Pakistan
1997-2004	Researcher , Department of Synthetic Chemistry & Biological Chemistry, Graduate School of Engineering, Kyoto University, Kyoto, Japan
1987-1994	Lecturer , National Centre of Excellence in Molecular Biology, Canal Bank Road, Lahore (From 1987 to 1994)

Areas of Interest:

My current research interest includes extremophiles such as hyperthermophiles and their thermostable enzymes. I am also trying to understand some of the basic principles of life in primitive microorganisms. Apart from this I am also interested in industrially important microorganisms and their enzymes, food microbiology.

International Patent:

Nasir Ahmed, **Naeem Rashid**, Muhammad Saleem Haider, and Muhammad Akhtar. Single step liquefaction and saccharification of corn starch using an acidophilic, calcium independent and hyperthermophilic pullulanase. Patent No. US 9,340,778 B2. Date of Patent: May 17, 2016.

**Book Chapter:**

Qamar Bashir, **Naeem Rashid** and Muhammad Akhtar (2017) Threonine degradation in hyperthermophilic organisms. In: The Handbook of Microbial Metabolism of Amino Acids. Edited by J.P.F. D’Mello. CAB International, Oxfordshire, UK. pp. 170–178.

List of Publications in Journals with Impact Factor (corresponding author is shown by *):

Sr. #	Publication	Impact Factor	Citation (Google Scholar)
98	Iram Aziz, Tahira Bibi, Naeem Rashid* , Riku Aono, Haruyuki Atomi* and Muhammad Akhtar (2018) A phosphofructokinase homolog from <i>Pyrobaculum calidifontis</i> displays kinase activity towards pyrimidine nucleosides and ribose 1-phosphate. J. Bacteriol. 200 : e00284-18. (Manuscript selected for Spotlight in J. Bacteriol.)	3.143	0
97	Habib-ur-Rehman, Masood Ahmed Siddiqui*, Abdul Qayyum, Arifa Bano and Naeem Rashid (2018) Gene expression in <i>Escherichia coli</i> and purification of recombinant type II pullulanase from a hyperthermophilic archaeon <i>Pyrobaculum calidifontis</i> . Pak. J. Zoo. 50 : 1381-1386. DOI: http://dx.doi.org/10.17582/journal.pjz/2018.50.4.1381.1386	0.491	0
96	Sabah Mansoor, Muhammad Tayyab*, Amna Jawad, Bushra Munir, Sehrish Firyal, Ali Raza Awan, Naeem Rashid and Muhammad Wasim (2018) Refolding of misfolded inclusion bodies of recombinant α -amylase: characterization of cobalt activated thermostable α -amylase from <i>Geobacillus</i> SBS-4S. Pak. J. Zoo. 50 :1147-1155.	0.491	0

95	Shahid Mahmood Chohan and Naeem Rashid* (2018) Gene cloning and characterization of recombinant L-Asparaginase from <i>Bacillus subtilis</i> strain R5. <i>Biologia</i> (in press). https://doi.org/10.2478/s11756-018-0054-1	0.759	0
94	J. Guo, A. R. Coker, S. P. Wood, J. B. Cooper*, R. M. Keegan, N. Ahmad, M. A. Muhammad, N. Rashid and M. Akhtar (2018) Structure and function of the type III pullulan hydrolase from <i>Thermococcus kodakarensis</i> . <i>Acta Cryst. D74</i> : 305-314.	2.114	0
93	Tahira Bibi, Musadiq Ali, Naeem Rashid* , Majida Atta Muhammad and Muhammad Akhtar (2018) Enhancement of gene expression in <i>Escherichia coli</i> and characterization of highly stable ATP-dependent glucokinase from <i>Pyrobaculum calidifontis</i> . <i>Extremophiles</i> 22:247-257. https://doi.org/10.1007/s00792-017-0993-4	2.346	0
92	Fatima Ahsan, Qurratulann Afza Gardner, Naeem Rashid , Greg J. Towers, Muhammad Akhtar* (2018) Preventing the N-terminal processing of human interferon α -2b and its chimeric derivatives expressed in <i>Escherichia coli</i> . <i>Bioorganic Chemistry</i> 76:294-302. doi: 10.1016/j.bioorg.2017.11.016	3.231	1
91	Iram Aziz, Naeem Rashid* , Raza Ashraf, Masood Ahmed Siddiqui, Tadayuki Imanaka and Muhammad Akhtar (2018) Pcal_0632, a phosphorylating glyceraldehyde-3-phosphate dehydrogenase from <i>Pyrobaculum calidifontis</i> . <i>Extremophiles</i> 22: 121-129. https://doi.org/10.1007/s00792-017-0982-7	2.346	0
90	J. Guo, A. R. Coker, S. P. Wood, J. B. Cooper*, S. M. Chohan, N. Rashid and M. Akhtar (2017) Structure and function of the thermostable L-asparaginase from <i>Thermococcus kodakarensis</i> . <i>Acta Cryst. D73</i> : 889-895. https://doi.org/10.1107/S2059798317014711 .	2.114	0
89	Raza Ashraf, Naeem Rashid* , Tamotsu Kanai, Tadayuki Imanaka and Muhammad Akhtar (2017) Pcal_1311, an alcohol dehydrogenase homologue from <i>Pyrobaculum calidifontis</i> , displays NADH-dependent high aldehyde reductase activity. <i>Extremophiles</i> 21(6):1101-1110. DOI: 10.1007/s00792-017-0970-y. http://rdcu.be/wEN4	2.346	1
88	Sumera Perveen, Naeem Rashid , Xiao-Feng Tang, Tadayuki Imanaka and Anastassios C. Papageorgiou* (2017) Crystal structure and functional characterization of an anthranilate phosphoribosyltransferase from the hyperthermophilic archaeon <i>Thermococcus kodakarensis</i> . <i>FEBS Open Bio</i> 7: 1217-1230. doi: 10.1002/2211-5463.12264.	2.143	0
87	Munir Ahmad, Qurratul Ann Afza Gardner, Naeem Rashid , Muhammad Akhtar* (2017) Designing structural-motifs for the preparation of acylated proinsulin and their regiospecific conversion into insulin modified at Lys ²⁹ . <i>Bioorganic Chemistry</i>	3.231	0

	73: 147-153.		
86	Raza Ashraf, Majida Atta Muhammad, Naeem Rashid* and Muhammad Akhtar (2017) Cloning and characterization of thermostable GroEL/GroES homologues from <i>Geobacillus thermopakistaniensis</i> and their applications in protein folding. J. Biotech. 254: 9-16. http://dx.doi.org/10.1016/j.jbiotec.2017.05.023 .	2.667	0
85	Furqan Sabir, Muhammad Tayyab*, Bushra Muneer, Abu Saeed Hashmi, Ali Raza Awan, Naeem Rashid , Muhammad Wasim and Sehrish Firyal (2017) Characterization of recombinant thermostable phytase from <i>Thermotoga naphthophila</i> : a step for the fulfilment of domestic requirement of phytase in Pakistan. Pak. J. Zool. 49: 1945-1951. DOI: http://dx.doi.org/10.17582/journal.pjz/2017.49.6.1945.1951	0.491	1
84	Majida Atta Muhammad, Samia Falak, Naeem Rashid* , Quratul-Ann Afza Gardner, Nasir Ahmad, Tadayuki Imanaka and Muhammad Akhtar (2017) <i>Escherichia coli</i> signal peptidase recognizes and cleaves archaeal signal sequence. Biochemistry (Moscow) 82: 821-825. DOI: 10.1134/S0006297917070070	1.421	1
83	Jingxu Guo, Wenling Zhang, Alun R. Coker, Steve P. Wood, Jonathan B. Cooper*, Shazeel Ahmad, Syed F. Ali, Naeem Rashid and Muhammad Akhtar (2017) Structure of the family B DNA polymerase from the hyperthermophilic archaeon <i>Pyrobaculum calidifontis</i> . Acta Cryst. D73: 420-427. https://doi.org/10.1107/S2059798317004090 .	2.114	1
82	Saadia Basheer, Naeem Rashid* , Raza Ashraf, Muhammad Sohail Akram, Masood Ahmed Siddiqui, Tadayuki Imanaka and Muhammad Akhtar (2017) Identification of a novel copper activated and halide tolerant laccase in <i>Geobacillus thermopakistaniensis</i> . Extremophiles 21: 563-571. DOI: 10.1007/s00792-017-0925-3	2.346	2
81	Iram Aziz, Naeem Rashid* , Raza Ashraf, Qamar Bashir, Tadayuki Imanaka and Muhammad Akhtar (2017) Pcal_0111, a highly thermostable bifunctional fructose-1,6-bisphosphate aldolase/phosphatase from <i>Pyrobaculum calidifontis</i> . Extremophiles 21: 513-521. DOI: 10.1007/s00792-017-0921-7	2.346	2
80	N. Mills-Davies, D. Butler, E. Norton, D. Thompson, M. Sarwar, J. Guo, R. Gill, N. Azim, A. Coker, S. P. Wood, P. T. Erskine, L. Coates, J. B. Cooper*, N. Rashid , M. Akhtar and P. M. Shoolingin-Jordan (2017) Structural studies of substrate and product complexes of 5-aminolaevulinic acid dehydratase from humans, <i>Escherichia coli</i> and the hyperthermophile <i>Pyrobaculum calidifontis</i> . Acta Cryst. D73: 9–21.	2.512	5
79	Raza Ashraf, Naeem Rashid* , Saadia Basheer, Iram Aziz, and	1.421	1

	Muhammad Akhtar (2017) Glutathione dependent formaldehyde dehydrogenase homologue from <i>Bacillus subtilis</i> strain R5 is a propanol preferring alcohol dehydrogenase. <i>Biochemistry (Moscow)</i> 82 : 13–23.		
78	Shahid Mahmood Chohan, Muhammad Atif Nisar, Naeem Rashid* , Ghazaleh Gharib, Qamar Bashir and Masood Ahmed Siddiqui (2016) TK1656, an L-asparaginase from <i>Thermococcus kodakarensis</i> , a novel candidate for therapeutic applications. <i>Biologia</i> 71 : 1315–1319.	0.759	0
77	Sumera Perveen, Naeem Rashid and Anastassios C. Papageorgiou* (2016) Crystal structure of a phosphoribosyl anthranilate isomerase from the hyperthermophilic archaeon <i>Thermococcus kodakaraensis</i> . <i>Acta Cryst.</i> F72 : 804–812.	0.647	1
76	Saba Riaz*, Muhammad Faisal Bashir, Saleem Haider and Naeem Rahid (2016) Association of genotypes with viral load and biochemical markers in HCV-infected Sindhi patients. <i>Braz. J. Microbiol.</i> 47 : 980–086.	0.592	6
75	Tahira Bibi, Sumera Perveen, Iram Aziz, Qamar Bashir, Naeem Rashid* , Tadayuki Imanaka, Muhammad Akhtar (2016) Pcal_1127, a highly stable and efficient ribose-5-phosphate pyrophosphokinase from <i>Pyrobaculum calidifontis</i> . <i>Extremophiles</i> 20 : 821–830. DOI:10.1007/s00792-016-0869-z	2.346	5
74	Sumaira Mehboob, Nasir Ahmad, Naeem Rashid* , Tadayuki Imanaka, Muhammad Akhtar (2016) Pcal_0768, a hyperactive 4- α -glucanotransferase from <i>Pyrobaculum calidifontis</i> . <i>Extremophiles</i> 20 : 559–566.	2.346	0
73	Shahzada Nadeem Abbas, Kenneth Hun Mok, Naeem Rashid , Yongjing Xie, Manuel Ruether, John O 'Brien, and Muhammad Akhtar* (2016) NMR studies on mechanism of isomerisation of fructose 6-phosphate to glucose 6-phosphate catalysed by phosphoglucose isomerase from <i>Thermococcus kodakarensis</i> . <i>Bioorganic Chemistry</i> . 66 : 41–45.	2.152	2
72	Ayesha Mazhar, Farrukh Jamil, Qamar Bashir, Munawar Saleem Ahmad, Misbah Masood, Imrana Tanvir, Naeem Rashid , Abdul Waheed, Muhammad Naveed Afzal, Muhammad Akram Tariq* (2016) Genetic variants in FGFR2 and TNRC9 genes are associated with breast cancer risk in Pakistani women. <i>Mol. Med. Rep.</i> 14 : 3443–3451. DOI: 10.3892/mmr.2016.5633	1.5	4
71	Ghazaleh Gharib, Naeem Rashid* , Qamar Bashir, Qurra-tul-Ann Afza Gardner, Muhammad Akhtar and Tadayuki Imanaka (2016) Pcal_1699, an extremely thermostable malate dehydrogenase from hyperthermophilic archaeon <i>Pyrobaculum</i>	2.346	7

	<i>calidifontis</i> . Extremophiles. 20 : 57–67. 10.1007/s00792-015-0797-3.		
70	Amina Arif, Naeem Rashid* , Farheen Aslam, Nasir Mahmood and Muhammad Akhtar (2016) Biased expression, under the control of single promoter, of human interferon α -2b and <i>Escherichia coli</i> methionine amino peptidase genes in <i>E. coli</i> , irrespective of their distance from the promoter. Pak. J. Pharm. Sci. 29 : 375–379.	0.682	1
69	Amina Arif, Qura-tul-Ann Afza Gardner, Naeem Rashid* and Muhammad Akhtar (2015) Production of human interferon alpha-2b in <i>Escherichia coli</i> and removal of N-terminal methionine utilizing archaeal methionine aminopeptidase. Biologia 70 : 982–987.	0.827	2
68	Nasir Ahmad, Sumaira Mehboob and Naeem Rashid* (2015) Starch-processing enzymes – emphasis on thermostable 4- α -glucanotransferases. Biologia 70 : 709–725.	0.827	2
67	Muhammad Tayyab, Naeem Rashid* , Clement Angkawidjaja, Shigenori Kanaya, Muhammad Wasim, Ali Raza Awan, Sehrish Firyal, Tahir Yaqub and Masood Ahmed Siddiqui (2015) Hydrophobic interactions induced activation of a thermo-alkalophilic lipase from <i>Geobacillus</i> SBS-4S by molecular dynamics simulations. J. Chem. Soci. Pak. 37 : 1030–1032.	0.612	0
66	Masood Ahmed Siddiqui*, Habib-ur-Rehman and Naeem Rashid (2014) Gene Cloning and Characterization of a Type II pullulanase hydrolase from a hyperthermophilic archaeon, <i>Pyrobaculum calidifontis</i> . Pak. J. Zool. 46 :1077–1084.	0.309	2
65	Amina Arif, Naeem Rashid* , Nasir Mahmood and Muhammad Akhtar (2014) Expression of human interferon α -2b and <i>Escherichia coli</i> methionine aminopeptidase genes in a single host using two incompatible plasmids. Pak. J. Zool. 46 : 983–987.	0.309	0
64	Masood Ahmed Siddiqui, Naeem Rashid , Saravananaraj Ayyampalayam, and William Whitman* (2014) Draft genome sequence of <i>Geobacillus thermopakistaniensis</i> strain MAS1. Genome Announc. 2 (3): e00559-14. pii:e00559-14. doi:10.1128/genomeA.00559-14.	1.4	7
63	Fatima Ahsan, Amina Arif, Nasir Mahmood, Qurra-tul Ann Afza Gardner, Naeem Rashid and Muhammad Akhtar* (2014)	3.183	6

	Characterization and bioassay of post-translationally modified interferon α -2b expressed in <i>Escherichia coli</i> . <i>J. Biotechnol.</i> 184 : 11–16.		
62	Anmbreen Jamroze, Giuseppe Perugino, Anna Valenti, Naeem Rashid , Mosè Rossi, Muhammad Akhtar and Maria Ciaramella* (2013) The reverse gyrase form <i>Pyrobaculum calidifontis</i> , a novel extremely thermophilic DNA topoisomerase endowed with DNA unwinding and annealing activities. <i>J. Biol. Chem.</i> 289 : 3231–3243. doi: 10.1074/jbc.M113.517649.	4.773	9
61	Shahzada Nadeem Abbas, Naeem Rashid* , Iram Aziz and Muhammad Akhtar (2013) Molecular cloning and characterization of TK1111, a cupin-type phosphoglucose isomerase from <i>Thermococcus kodakarensis</i> . <i>Turk. J. Biochem.</i> 38 : 438–444.	0.23	1
60	Nasir Ahmad, Naeem Rashid* , Saleem Haider, Mehwish Akram and Muhammad Akhtar (2014) A novel maltotriose hydrolyzing thermo-acidophilic pullulan hydrolase type III from <i>Thermococcus kodakarensis</i> . <i>Appl. Environ. Microbiol.</i> 80 1108-1115.	3.678	13
59	Farheen Aslam, Qurra-tul Ann Afza Gardner, Hina Zain, Muhammad Shahid Nadeem, Muhammad Ali, Naeem Rashid and Muhammad Akhtar* (2013) Studies on the expression and processing of human proinsulin derivatives encoded by different DNA constructs. <i>Biochim. Biophys. Acta</i> 1834 : 2116–2123.	3.635	6
58	Faisal Bashir, Saleem Haider, Naeem Rashid and Saba Riaz* (2013) Association of biochemical markers, hepatitis C virus and diabetes mellitus in Pakistani males. <i>Trop. J. Pharm. Res.</i> 12 : 845-850.	0.82	6
57	Faisal Bashir, Saleem Haider, Naeem Rashid and Saba Riaz* (2013) Core gene expression and association of genotypes with viral load in HCV infected patients of Punjab Pakistan. <i>Trop. J. Pharm. Res.</i> 12 : 335-341.	0.82	4

56	Nouman Rasool, Naeem Rashid* , Qamar Bashir and Masood Ahmed Siddiqui (2013) Proteolytic inventory of <i>Thermococcus kodakaraensis</i> . <i>Afr. J. Microbiol. Res.</i> 7 : 3139-3150.	0.533	2
55	Barizah Malik, Naeem Rashid* , Nasir Ahmad and Muhammad Akhtar (2013) <i>Escherichia coli</i> signal peptidases recognize and cleave the signal sequence of α -amylase originated from <i>Bacillus licheniformis</i> . <i>Biochemistry (Moscow)</i> 78 : 958-962.	1.149	3
54	Masood Ahmed Siddiqui*, Naeem Rashid and Habib-ur-Rehman (2013) Truncated Type II isopentenyl diphosphate isomerase from hyperthermophilic Archaeon <i>Thermococcus kodakaraensis</i> implicates the necessity of its N-terminal amino acid residues in protein thermostability. <i>Pak. J. Pharm. Sci.</i> 26 : 733-740.	1.103	0
53	Shahid Mahmood Chohan and Naeem Rashid* (2013) TK1656, a thermostable L-asparaginase from <i>Thermococcus kodakaraensis</i> , exhibiting highest ever reported enzyme activity. <i>J. Biosci. Bioeng.</i> 116: 438-443.	1.749	28
52	Muhammad Tayyab, Naeem Rashid* , Clement Angkawidjaja, Shigenori Kanaya and Muhammd Akhtar (2013) Crystallization and X-ray diffraction analysis of thermo-alkalophilic lipase from <i>Geobacillus</i> SBS-4S. <i>Acta Cryst.</i> F69 : 355-357.	0.51	1
51	M. Atif Nisar, Naeem Rashid* , Qamar Bashir, Qurat-ul-Ann Afza Gardner, M. Hassan Shafiq, and Muhammad Akhtar (2013) TK1299, a highly thermostable NAD(P)H oxidase from <i>Thermococcus kodakaraensis</i> exhibiting higher enzymatic activity with NADPH. <i>J. Biosci. Bioeng.</i> 116 : 39-44.	1.749	3
50	Ikram Ul Haq*, Mahmood Ali Khan, Bushra Muneer, Zahid Hussain, Sumra Afzal, Sana Majeed, Naeem Rashid , M. Mohsin Javed and Ishtiaq Ahmad (2012) Cloning, characterization and molecular docking of a highly thermostable β -1,4-glucosidase from <i>Thermotoga petrophila</i> . <i>Biotechnol. Lett.</i> , 34 : 1703-1709.	1.636	13
49	Kausar Malik*, Khalid Pervaiz Lone, Amjad Farooq, Asmat Ullah, Shagufta Andleeb, Muhammad Ali Talpur, Naeem	0.533	0

	Rashid , Nakhshab Choudhary and Khadija Awan (2012) Rapeseed meal feeding effects on total proteins and lipids of Japanese Quail. <i>Afr. J. Microbiol. Res.</i> 6 : 5582-5586		
48	Muhammad Faisal Bashir, Muhammad Saleem Haider, Naeem Rashid and Saba Riaz* (2012) Distribution of hepatitis C virus (HCV) genotypes in different remote cities of Pakistan. <i>Afr. J. Microbiol. Res.</i> 6 : 4747-4751.	0.533	7
47	Khalid Mahmood, Mateen Izhar, Nakhshab Choudhry, Ghulam Mujtaba and Naeem Rashid * (2012) Emergence of Extended-spectrum β -lactamase producing <i>Salmonella typhi</i> in Pakistan. <i>Afr. J. Microbiol. Res.</i> 6 : 793-797.	0.533	7
46	Nakhshab Choudhry, Saeed Ahmed Nagra, Tahir Shafi, Ghulam Mujtaba, Muhammad Abiodullah and Naeem Rashid * (2012) Lack of association of insertion/deletion polymorphism in angiotensin converting enzyme gene with nephropathy in type 2 diabetic patients in Punjabi population of Pakistan. <i>Afr. J. Biotech.</i> 11 :1484-1489.	0.573	1
45	Naeem Rashid *, Saira Hameed, Masood Ahmed Siddiqui and Ikram-ul-Haq (2011) Gene cloning and characterization of NADH oxidase from <i>Thermococcus kodakarensis</i> . <i>Afr. J. Biotech.</i> 10 : 17916-17924.	0.573	2
44	Muhammad Shahid Nadeem, Naeem Rashid *, Muzaffar Iqbal, Qurra-tul-Ann Afza Gardner and Muhammad Akhtar (2011) First cloning and characterization of aspartate aminotransferase from river buffalo (<i>Bubalus bubalis</i>). <i>Biologia</i> 66 : 1202-1210.	0.617	2
43	Syed Farhat Ali, Naeem Rashid *, Tadayuki Imanaka and Mohammad Akhtar (2011) Family B DNA polymerase from a hyperthermophilic archaeon <i>Pyrobaculum calidifontis</i> : cloning, characterization and PCR application. <i>J. Biosci. Bioeng.</i> 112 : 118-123.	1.749	4
42	Naeem Rashid *, Saira Akmal, and Muhammad Akhtar (2011) Gene Cloning and Characterization of TK1392, an NADH oxidase from <i>Thermococcus kodakaraensis</i> with a distinct C-	0.274	2

	terminal domain. <i>Turk. J. Biochem.</i> 36 : 107-115.		
41	Nouman Rasool, Naeem Rashid* , Muhammad Arshad Javed and M. Saleem Haider (2011) Requirement of pro-peptide in proper folding of subtilisin-like serine protease TK0076. <i>Pak. J. Bot.</i> 43 : 2059-2065.	0.947	0
40	M. Saleem Haider*, Shahid Afghan, Haroon Riaz, M. Tahir, M. Arshad Javed, Naeem Rashid and Javed Iqbal (2011) Identification of two Sugarcane mosaicvirus (SCMV) variants from naturally infected sugarcane crop in Pakistan. <i>Pak. J. Bot.</i> 43 : 1157-1162.	0.947	8
39	Muhammad Tayyab, Naeem Rashid* , and Muhammd Akhtar (2011) Isolation and identification of lipase producing thermophilic <i>Geobacillus</i> sp. SBS-4S: cloning and characterization of the lipase. <i>J. Biosci. Bioeng.</i> 111 : 272-278.	1.749	35
38	Muhammad Tayyab, Naeem Rashid* , Clement Angkawidjaja, Shigenori Kanaya and Muhammd Akhtar (2011) Highly active metalloprotease from newly isolated <i>Geobacillus</i> strain SBS-4S: cloning and characterization. <i>J. Biosci. Bioeng.</i> 111 : 259-265.	1.749	5
37	Amir Jalal, Naeem Rashid* , Nasir Ahmed, Saima Iftikhar and Muhammad Akhtar (2011) <i>Escherichia coli</i> signal peptidase recognizes and cleaves the signal sequence of xylanase from a newly isolated <i>Bacillus subtilis</i> strain R5. <i>Biochemistry (Moscow)</i> 76 : 347-349.	1.327	5
36	Farrukh Jamil, Naeem Rashid* , Qurra-tul-Ann Afza Gardner and Muhammad Akhtar (2011) Gene cloning and characterization of glycine oxidase from newly isolated <i>Bacillus subtilis</i> strain R5. <i>Biologia</i> 66 :1-7.	0.617	1
35	Hooria Younas, Qurra-tul-Ann Afza Gardner, Naeem Rashid , J. Neville Wright and Muhammad Akhtar* (2011) Conformational transmission in proinsulin and its derivatives: A study using H/D exchange. <i>Int. J. Mass Spectrom.</i> 302 : 36-43.	2.549	2
34	Farrukh Jamil, Qurra-tul-Ann Afza Gardner, Qamar Bashir,	3.379	5

	Naeem Rashid and Muhammad Akhtar* (2010) Mechanistic and stereochemical studies of glycine oxidase from <i>Bacillus subtilis</i> strain R5. <i>Biochemistry</i> 49 : 7377-7383.		
33	Naeem Rashid* , Masood Ahmed Siddiqui, M. Saleem Haider, and M. Arshad Javed (2010) Crystallization of Fructose 1,6-bisphosphatase from the Hyperthermophilic Archaeon <i>Thermococcus kodakaraensis</i> . <i>Pak. J. Bot.</i> 42 : 2313-2316.	0.947	0
32	Nouman Rasool, Naeem Rashid* , Saima Iftikhar and Muhammad Akhtar (2010) N-terminal deletion of Tk1689, a subtilisin-like serine protease from <i>Thermococcus kodakaraensis</i> , copes with its cytotoxicity in <i>Escherichia coli</i> . <i>J. Biosci. Bioeng.</i> 110 : 381-385.	1.749	11
31	Naeem Rashid* , Nasir Ahmed, M. Saleem Haider, and Ikram ul Haque (2010) Effective solubilization and single-step purification of <i>Bacillus licheniformis</i> α -amylase from insoluble aggregates. <i>Folia Microbiologica</i> 55 : 133-136.	1.749	6
30	A. Bowyer, H. Mikolajek, J.W. Stuart, S.P. Wood, Farrukh Jamil, Naeem Rashid , Muhammad Akhtar, and J.B. Cooper* (2009) Structure and function of the L-threonine dehydrogenase (TkTDH) from the hyperthermophilic archaeon <i>Thermococcus kodakaraensis</i> . <i>J. Struct. Biol.</i> 168 : 294-304.	4.059	19
29	Naeem Rashid* , Alia, Ikram-ul-Haque, and Muhammad Akhtar (2009) Insoluble but enzymatically active α -amylase from <i>Bacillus licheniformis</i> . <i>Biologia</i> 64 : 660-663.	0.406	5
28	Qamar Bashir, Naeem Rashid* , Farrukh Jamil, Tadayuki Imanaka and Muhammad Akhtar (2009) Highly thermostable L-threonine dehydrogenase from the hyperthermophilic archaeon <i>Thermococcus kodakaraensis</i> . <i>J. Biochem.</i> 146 : 95-102.	1.878	19
27	Qurra-tul-Ann Afza Gardner, Hooria Younas, Naeem Rashid , J. Neville Wright and Muhammad Akhtar* (2009) Inventory of 'slow exchanging' hydrogen atoms in human proinsulin and its derivatives: observations on the mass spectrometric analysis of deuterio-proteins in D ₂ O. <i>Biochim. Biophys. Acta</i> 1794 : 1224-	3.635	4

	1233.		
26	Azad Hussain Shah*, Naeem Rashid , Muhammad Saleem Haider, Faiza Saleem, Muhammad Tahir and Javed Iqbal (2009) An efficient, short and cost effective regeneration system for transformation studies of sugar cane (<i>Saccharum officinarum</i> L). <i>Pak. J. Bot.</i> 41 : 609-614.	0.947	13
25	Amir Jalal, Naeem Rashid* , Nouman Rasool, and Muhammad Akhtar (2009) Gene cloning and characterization of a xylanase from a newly isolated <i>Bacillus subtilis</i> strain R5. <i>J. Biosci. Bioeng.</i> 107 :360-365.	1.749	45
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21	Naeem Rashid* and Tadayuki Imanaka (2008) Efficient degradation of grease using microorganisms. <i>J. Chem. Soc. Pak.</i> 30 : 612-617.	0.221	13
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16	Takaaki Sato, Hiroyuki Imanaka, Naeem Rashid , Toshiaki Fukui, Haruyuki Atomi, and Tadayuki Imanaka* (2004) Genetic evidence identifying the true gluconeogenic fructose-1,6-bisphosphatase in (hyper)thermophiles. <i>J. Bacteriol.</i> 186 : 5799-5807.	3.94	102
15	Naeem Rashid , Hiroyuki Imanaka, Toshiaki Fukui, Haruyuki Atomi, and Tadayuki Imanaka* (2004) Presence of a novel phosphopentomutase and a 2-deoxyribose 5-phosphate aldolase reveals a metabolic link between pentoses and central carbon metabolism in the hyperthermophilic archaeon <i>Thermococcus kodakaraensis</i> . <i>J. Bacteriol.</i> 186 : 4185-4191.	3.94	
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12	Naeem Rashid , Joel Cornista, Satoshi Ezaki, Toshiaki Fukui, Haruyuki Atomi and Tadayuki Imanaka* (2002) Characterization of an archaeal cyclodextrin glucanotransferase with a novel C-terminal domain. <i>J. Bacteriol.</i> 184 :777-784.	3.94	65
11	Naeem Rashid , Yuji Shimada, Satoshi Ezaki, Haruyuki Atomi and Tadayuki Imanaka* (2001) Low-temperature lipase from a psychrotrophic <i>Pseudomonas</i> sp. strain KB700A. <i>Appl. Environ. Microbiol.</i> 67 : 4064-4069.	3.686	254
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9	Kazuaki Harata, Noriyuki Ishii, Naeem Rashid , Masaaki Morikawa, and Tadayuki Imanaka* (2000) Crystallization and preliminary X-Ray study of <i>Pk</i> -REC from hyperthermophilic archaeon, <i>Pyrococcus kodakaraensis</i> KOD1. <i>Acta Cryst.</i> D56 :648-649.	3.067	3
8	Naeem Rashid , Hiroshi Kikuchi, Satoshi Ezaki, Haruyuki Atomi and Tadayuki Imanaka* (1999) Isolation and Characterization of Psychrotrophs from Subterranean Environment. <i>J. Biosci. Bioeng.</i> 87 : 746-751.	1.749	17
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5	Naeem Rashid , Masaaki Morikawa, and Tadayuki Imanaka* (1997) Gene cloning and characterization of recombinant ribose phosphate pyrophosphokinase from a hyperthermophilic	1.749	10

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3	Naeem Rashid , Masaaki Morikawa, and Tadayuki Imanaka* (1996) A RecA/RAD51 homologue from a hyperthermophilic archaeon retains the major RecA domain only. <i>Mol. Genet. Genomics</i> 253 : 397-400.	2.838	38
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Corresponding Author of 44 Research Articles

First Author of 19 Research Articles

Accumulative Journal Impact Factor = 190.637

Accumulative Citations = 1397

(http://apps.webofknowledge.com/UA_GeneralSearch_input.do?product=UA&search_mode=GeneralSearch&SID=N1i3UPafVQ7mx2qQ4Ha&preferencesSaved=)

List of Publications in Journals without Impact Factor

Sr. #	Publication
1	Majida A MUHAMMAD, Samia FALAK, Naeem RASHID* , Nasir AHMED, Qurra-tul-Ann A GARDNER, Anam TARIQ and Muhammad AKHTAR (2017) Complete signal peptide of Tk1884, an α -amylase from <i>Thermococcus kodakarensis</i> , is not necessary for extracellular secretion of the enzyme by <i>Escherichia coli</i> . <i>Amylase</i> 1: 75-81.
2	Naeem Rashid* , Azad Hussain Shah, Muhammad Saleem Haider, and Javed Iqbal (2006) Thermostable Cyclodextrin Glucanotransferases. <i>Pak. J. Sci. Ind. Res.</i> 49 : 58-64.
3	Shahid Afghan*, Muhammad Saleem Haider, Azad Hussain Shah,

	Naeem Rashid , Javed Iqbal, Muhammad Tahir and Muhammad Akhtar. (2005) Detection of genetic diversity among sugarcane (<i>Saccharum</i> sp.) genotypes using Random Amplified Polymorphic DNA markers. <i>Sugar Cane Int.</i> 23 : 17-21.
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5	Naeem Rashid* , Masaaki Morikawa, and Tadayuki Imanaka (1994) Cloning and analysis of 16S-rRNA gene and transcription factor (TF) IID gene from a hyperthermophilic archaeon strain KOD1. <i>Annu. Rep. ICBiotech.</i> 17 : 255-270.
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1) Muhammad Saleem Haider, Muhammad Tahir, Ahlam Saeed, Azad Hussain Shah, Naeem Rashid, Muhammad Arshad Javed and Javed Iqbal. Vinca minor: another host of a tomato infecting begomovirus in Pakistan. African Crop Science Conference Proceedings, **8**: 905-907 (2007).

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4) **Naeem Rashid**, Haruyuki Atomi and Tadayuki Imanaka. (2000) Subterranean environment: a promising source for the isolation of psychrotrophs. Proceedings of the Fifth International Symposium on Environmental Biotechnology. Kyoto, Japan. July 9-13, 2000.

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1. **Naeem Rashid**, Muhammad Tayyab, Muhammad Akhtar, and Shigenori Kanaya. Isolation and identification of a novel thermophilic bacterial strain from Pakistan and its industrial applications. 64th Annual Meeting of the Society of Biotechnology Japan. Kobe, Japan. October 2012.

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5. **Naeem Rashid**. determination the function of unidentified genes from *Thermococcus kodakaraensis*. JSPS-B symposium on New Waves in Microbial Biotechnology for the Tropics. Bangkok, Thailand. March 2005.
6. Qamar Bashir, Nouman Rasool, Amir Jalal, **Naeem Rashid** and Mohammad Akhtar. Cloning , expression and purification of L-threonine dehydrogenase from *Thermococcus kodakaraensis*. 18th Federation of Asian and Oceanian Biochemists and Molecular Biologist Symposium on Genomics and Proteomics in Health and Agriculture. Lahore, Pakistan. November 2005.
7. Nasir Mahmood, **Naeem Rashid**, Mohammad Akhtar, Naseer Ahmed, Mohammad Younas, Nouman Rasool, Amir Jalal and Qamar Bashir. Molecular cloning, sequencing and expression of human interferon α -2b gene isolated from blood leukocytes. 18th Federation of Asian and Oceanian Biochemists and Molecular Biologist Symposium on Genomics and Proteomics in Health and Agriculture. Lahore, Pakistan. November 2005.
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18. **Naeem Rashid**, Haruyuki Atomi and Tadayuki Imanaka. (2000) Subterranean environment: a promising source for the isolation of psychrotrophs. Fifth International Symposium on Environmental Biotechnology. Kyoto, Japan. July 2000.
19. **Naeem Rashid** and Tadayuki Imanaka. A Novel Method for Rapid and Efficient Biodegradation of Grease. Fifth International Symposium on Environmental Biotechnology. Kyoto, Japan. July 2000.
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23. **Naeem Rashid**, Masaaki Morikawa, and Tadayuki Imanaka. Gene cloning and characterization of a RecA/RAD51 homologue from the hyperthermophilic archaeon *Pyrococcus* sp. KOD1. The 1996 Annual Meeting of the Society for Biotechnology, Japan. Nagoya, Japan. August 1996.

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DNA Sequences Published In DDBJ/EMBL/GENBANK:

1)AB437282. *Bubalus bubalis* ast1 mRNA for cytosolic aspartate aminotransferase, complete cds gi|219567007|dbj|AB437282.1|[219567007]

2)AB234871. *Bubalus bubalis* bpi mRNA for proinsulin, partial cds gi|89331177|dbj|AB234871.1|[89331177]

3)FM992673. *Bacillus subtilis* csn gene for chitosanase, strain R5 gi|222112963|emb|FM992673.1|[222112963]

4)AM292303. Pedilanthus leaf curl virus-Pedilanthus [Pakistan:Multan:2004] partial CP gene for coat protein gi|219938436|emb|AM292303.1|[219938436]

5)AB306521. *Geobacillus* sp. sbs4s2 gene for 16S rRNA gi|161408108|dbj|AB306521.1|[161408108]

- 6) AB306520. *Geobacillus* sp. sbs4L gene for 16S rRNA gi|161408107|dbj|AB306520.1|[161408107]
- 7) AB306519. *Geobacillus* sp. sbs4s gene for 16S rRNA gi|161408106|dbj|AB306519.1|[161408106]
- 8) AB306518. *Geobacillus* sp. sbs3 gene for 16S rRNA gi|161408105|dbj|AB306518.1|[161408105]
- 9) AB218809. *Bacillus* sp. CMBL-Pb14 gene for 16S rRNA, partial sequence, isolate:CMBL-Pb14 gi|83627338|dbj|AB218809.1|[83627338]
- 10) AB218808. *Bacillus* sp. CMBL-Pb13 gene for 16S rRNA, partial sequence, isolate:CMBL-Pb13 gi|83627337|dbj|AB218808.1|[83627337]
- 11) AB218807. *Bacillus subtilis* gene for 16S rRNA, partial sequence, isolate:CMBL-Pb12 gi|83627336|dbj|AB218807.1|[83627336]
- 12) AB218806. *Bacillus* sp. CMBL-Pb11 gene for 16S rRNA, partial sequence, isolate:CMBL-Pb11 gi|83627335|dbj|AB218806.1|[83627335]
- 13) AB218805. *Bacillus subtilis* gene for 16S rRNA, partial sequence, isolate:CMBL-Pb10 gi|83627334|dbj|AB218805.1|[83627334]
- 14) AB218804. *Bacillus subtilis* gene for 16S rRNA, partial sequence, isolate:CMBL-Pb9 gi|83627333|dbj|AB218804.1|[83627333]
- 15) D83176. *Thermococcus kodakarensis* KOD1 Pk-rec gene, complete cds gi|6009934|dbj|D83176.2|[6009934]
- 16) AB257199. *Bacillus subtilis* gene for 16S rRNA, strain:R5 gi|92109227|dbj|AB257199.1|[92109227]
- 17) AB126242. *Thermococcus kodakaraensis* Tko1797 gene for phosphosugar mutase, complete cds gi|51870682|dbj|AB126242.1|[51870682]
- 18) AB126241. *Thermococcus kodakaraensis* Tko1621 gene for phosphoglucomutase, complete cds gi|51870680|dbj|AB126241.1|[51870680]
- 19) AB126240. *Thermococcus kodakaraensis* Tko1062 gene for phosphosugar mutase, complete cds gi|51870678|dbj|AB126240.1|[51870678]
- 20) AB126239. *Thermococcus kodakaraensis* Tko0866 gene for phosphopentomutase, complete cds gi|48958320|dbj|AB126239.1|[48958320]
- 21) AB092961. *Thermococcus kodakaraensis* deoC gene for 2-deoxyribose 5-

phosphate aldolase, complete cds gi|29603485|dbj|AB092961.1|[29603485]

22) AB081839. *Thermococcus kodakaraensis* gene for hypothetical protein, complete cds gi|22335734|dbj|AB081839.1|[22335734]

23) AB072372. *Thermococcus kodakaraensis* Tk-cgt gene for cyclodextrin glucanotransferase, complete cds gi|17298172|dbj|AB072372.1|[17298172]

24) AB063391. *Pseudomonas* sp. KB700A KB-lip gene for lipase, complete cds gi|15553086|dbj|AB063391.1|[15553086]

25) D38650. *Thermococcus kodakaraensis* genes for 16S rRNA, 23S rRNA, complete and partial sequences gi|6683459|dbj|D38650.2|PYWKOD1[6683459]

26) AB024413. *Pseudomonas* sp. KB700A gene for 16S rRNA, complete sequence gi|5042387|dbj|AB024413.1|[5042387]

27) AB024412. *Arthrobacter* sp. SN16A gene for 16S rRNA, complete sequence gi|5033836|dbj|AB024412.1|[5033836]

28) D78364. *Pyrococcus* sp. DNA for ribose phosphate pyrophosphokinase, complete cds gi|2760288|dbj|D78364.1|[2760288]

29) D50018. *Pyrococcus* sp. Pk-tbp gene for PKTBP (TATA binding protein), complete cds gi|1507683|dbj|D50018.1|PYWPKTBP[1507683]

PhD Theses Supervised:

- 1) Comparative Studies on Recombinant Laccases of Thermophilic (*Geobacillus* SBS-4S) and Mesophilic (*Bacillus* strain R5) origins (Saadia Basheer January 22, 2018)
- 2) Comparative studies on Alcohol dehydrogenases from mesophilic (*Bacillus subtilis* R5) and hyperthermophilic (*Pyrobaculum calidifontis*) origins (Raza Asharf September 28, 2017)
- 3) Cloning and characterization of glyceraldehyde-3-phosphate dehydrogenase and fructose 1,6-bisphosphatase from hyperthermophilic archaeon *Pyrobaculum calidifontis* (Iram Aziz September 22, 2017)
- 4) Thermostable kinases from *Pyrobaculum calidifontis*: cloning and characterization (Tahira Bibi September 13, 2017)
- 5) Molecular cloning and characterization of two clinically important enzymes, malate dehydrogenase and aspartate aminotransferase, of thermophilic and hyperthermophilic origins (Ghazaleh Gharib 3rd September, 2016).
- 6) Glycosyl hydrolases from hyperthermophilic archaeon *Pyrobaculum calidifontis*: cloning and characterization (Sumaira Mehboob 1st March, 2016)
- 7) Optimization of Conditions for the Folding and Bioprocessing of Different

- Derivatives of Human Insulin (Munir Ahmad 31 Dec 2015) SBS Punjab University
- 8) Studies on L-asparaginases from mesophilic and thermophilic microorganisms (Shahid Mahmood Chohan 2015). Punjab Forensic Agency, Lahore.
 - 9) Heme biosynthetic pathway in hyperthermophilic archaea (Naseema Azim 2014). Post Doctorate Fellow, SBS, Punjab University, Lahore.
 - 10) Studies on the engineering of human interferon α 2-b derivatives: chimera and conjugate (Fatima Ahsan 2014). Post Doctorate Fellow, SBS, Punjab University, Lahore.
 - 11) Studies on reverse gyrase from hyperthermophilic archaeon *Pyrobaculum calidifontis* (Anmbreen Jamroze 2014). Post Doctorate Fellow, LUMS, Lahore.
 - 12) Studies on the preparation of interferon α -2b and removal of its N-terminal methionine using methionine aminopeptidases (Amina Arif 2014). Assistant Professor, University of Central Punjab, Lahore.
 - 13) Nuclear magnetic resonance studies on mechanism and stereochemistry of the reaction catalysed by phosphoglucose isomerase from *Thermococcus kodakaraensis* (Shahzada Nadeem Abbas 2014). Assistant Professor, Garrison University, Lahore.
 - 14) Studies on Hepatitis C virus genes encoding structural and non-structural proteins from Pakistani isolates. (Faisal Bashir 2014).
 - 15) Angiotensin-I converting enzyme gene insertion/deletion polymorphism and its association with albuminuria in type 2 diabetic patients. (Nakhshab Chaudhry 2013)
Current position: Additional Registrar, King Edwards Medical University, Lahore
 - 16) Molecular characterization of virus(es) infecting hollyhock (*Alcea rosea* L.) samples exhibiting different symptoms. (Muhammad Zia-ur-Rehman 2012)
Current position: Postdoc Fellow, Institute of Agricultural Sciences, University of the Punjab, Lahore
 - 17) Amylolytic enzyme(s) from hyperthermophilic archaea: cloning and characterization. (Nasir Ahmad 2012)
Current position: Assistant Professor, Institute of Agricultural Sciences, University of the Punjab, Lahore
 - 18) Engineering of modified derivatives of proinsulin for the production of human insulin. (Hina Zain 2012)
Current position: Assistant Professor, Lahore College for Women University, Lahore
 - 19) Cloning, expression and physico-chemical analysis of proinsulin and its derivatives. (Farheen Aslam 2012)
Current position: Assistant Professor, Lahore College for Women University, Lahore
 - 20) Mechanistic and stereochemical studies on 2-amino-3-ketobutyrate CoA ligase and related enzymes. (Farrukh Jamil 2011)

Current position: Postdoc Fellow, University of Sains, Malaysia

- 21) Hydrolytic enzyme(s) from newly isolated thermophilic strain from Pakistan (Muhammad Tayyab, 2011)
Current Position: Assistant Professor, University of Veterinary and Animal Sciences, Lahore
- 22) Study of DNA polymerase from a hyperthermophilic archaeon *Pyrobaculum calidifontis* (Syed Farhat Ali, 2011)
Current position: Assistant Professor, FC College University, Lahore
- 23) Characterization of thermostable proteases from *Thermococcus kodakaraensis* (Nauman Rasool, 2010)
Current position: Forensic Scientist, Punjab Forensic Science Agency, Lahore
- 24) Cloning and characterization of hydrolytic enzymes from bacterial strain R5. (Amir Jalal, 2010)
Current position: Assistant Professor, Superior University, Lahore
- 25) Cloning, expression and mutational analysis of human interferon α -2 gene and isolation of antiviral gene sequence. (Nasir Mahmood, 2010)
Current position: Assistant Professor, University of Health Sciences, Lahore
- 26) Molecular Biological studies on Buffalo (*Bubalus bubalis*) proinsulin and their application in the preparation of native and modified hormone derivatives (Hooriya Younas, 2009)
Current position: Assistant Professor, Kinnaird College for Women, Lahore
- 27) Studies on the production of recombinant human insulin and its precursors. (Qurat-ul-Ain Afza Gardner, 2009)
Current position: Assistant Professor, School of Biological Sciences, University of the Punjab

M. Phil Theses Supervised:

- 1) Molecular cloning and production, in *Escherichia coli*, of copper oxidase from *Geobacillus thermopakistaniensis* with modified signal sequence (Maryam Shakeel 2017)
- 2) Molecular cloning and characterization of TK0522, a probable carbohydrate esterase from hyperthermophilic archaeon *Thermococcus kodakarensis* (Aleena Gul 2016)
- 3) Gene cloning, expression in *Escherichia coli* and characterization of TK1401, a probable carboxylesterase/lipase from hyperthermophilic archaeon *Thermococcus kodakarensis* (Tooba Zahid 2016)

- 4) Gene cloning and characterization of TK1884, an α -amylase from *Thermococcus kodakarensis* (Samia Falak 2016)
- 5) Gene cloning, with and without signal sequence, expression in *Escherichia coli* and characterization of a thermostable pullulanase from *Thermococcus kodakarensis* (Majida Atta Muhammad 2016)
- 6) Gene cloning, with and without signal sequence, expression in *Escherichia coli* and characterization of pullulanase from *Pyrobaculum calidifontis* (Ayesha Pervez 2016)
- 7) Gene cloning and expression, in *Escherichia coli*, of a hexokinase/glucokinase homologue from hyperthermophilic archaeon *Pyrobaculum calidifontis* (Musadiq Ali 2015)
- 8) Cloning and expression of α -amylase from *Bacillus licheniformis*, with and without signal sequence, and characterization of the gene product. (Barizah Malik 2012)
- 9) Characterization of thermostable pullulanase from *Thermococcus kodakaraensis*. (Mehwish Akram 2012)
- 10) Gene cloning and expression, in *Escherichia coli*, of tryptophan synthase α - and β -subunit from hyperthermophilic archaeon *Pyrobaculum caladifontis*. (Sumera Perveen 2012)
- 11) Gene cloning and characterization of a novel NAD(P)H oxidase from *Thermococcus kodakaraensis*. (Muhammad Hassan Shafiq 2012)
- 12) Comparative studies on NADH oxidases from hyperthermophilic archaeon *Thermococcus kodakarensis*. (Muhammad Atif Nisar 2011)
- 13) Characterization of 4- α -glucanotransferase from *Pyrobaculum caladifontis*. (Aslam Shehzad 2010)
- 14) Cloning and characterization of flap-endonuclease from *Thermococcus kodakaraensis*. (Qurat-ul-Ain 2009)
- 15) NADH Oxidase from *Thermococcus kodakaraensis*. (Saira Hameed 2009)
- 16) Cloning and characterization of NADH oxidase from hyperthermophilic archaeon *Thermococcus kodakaraensis*. (Saira Akmal 2008)
- 17) Gene cloning, expression and purification of thermostable NADH oxidase. (Fareeha Tasleem 2008)
- 18) Cloning and characterization of lipase from *Bacillus subtilis* strain R5. (Mariam Zameer 2008)

19) Cloning and characterization of α -amylase from *Bacillus licheniformis*. (Alia Farooq 2007)

20) Purification and characterization of α -amylase from *Bacillus licheniformis*.(Farrah Naz 2007)

Competitive Research Project Grants:

Sr. #	Projects Title	Amount	Sponsoring Agency
(as PI)		(Pak Rs.)	
1)	Characterization of thermostable DNA ligase	1,000,000/-	HEC, Pakistan
2)	Cloning and characterization of a thermostable DNA polymerase	3,046,470/-	HEC, Pakistan
3)	Production and characterization of recombinant laccase from locally isolated thermophilic <i>Geobacillus</i> strain SBS-4S	1,673,480/=	PSF, Pakistan
4)	Discovering the missing phosphofructokinase in hyperthermophilic archaeon <i>Pyrobaculum calidifontis</i>	6,824,100/-	HEC, Pakistan
(as Co-PI)			
1)	Cloning, sequencing, and expression of gene and biochemical characterization of starch hydrolyzing enzyme pullulanase from hyperthermophilic archaeon <i>Pyrobaculum calidifontis</i>	3,261,635/-	HEC, Pakistan
2)	Process scale up and optimization for synthesis of thermostable industrial enzymes (TDF 02-069)	14,000,000/-	HEC Pakistan