CURRICULUM VITAE

Prof. 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 (Equivalence # 8-50/HEC/A&A/2010/7700)
1997-2004	Post-Doctorate, Kyoto University, Kyoto, Japan

Positions Held

Present Position	**Visiting Professor,** School of Biological Sciences, University of the Punjab, Quaid-e-Azam Campus, Lahore 54590, Pakistan
2016-2022	**Director General**, School of Biological Sciences, University of the Punjab, Quaid-e-Azam Campus, Lahore 54590, Pakistan
2007-2022	**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.

Editorship/Advisory Board:

1) Biologia (Published by Springer)
https://www.springer.com/journal/11756/editors
2) Amylase (Published by degruyter)
https://www.degruyter.com/journal/key/amylase/html?lang=en

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.

Local Patent:

Nasir Ahmad, Majida Atta Muhammad and Naeem Rashid.Production of maltose and glucose rich syrups at natural pH of starch slurry using a single enzyme.Submitted 2025.

Book Chapters:

1) Muhammad Sajed, Sabeel un Naeem and **Naeem Rashid*** (2022) L-Asparaginases from hyperthermophilic archaea and their applications. In: Microbial Extremozymes, Edited by Mohammed Kuddus, Academic Press. pp 177–184. doi.org/10.1016/B978-0-12-822945-3.00022-1.
2) Mehwish Aslam and **Naeem Rashid*** (2022) Bioenergy production in extremophiles. In: Microbial Extremozymes, Edited by Mohammed Kuddus, Academic Press. pp 231–246. doi.org/10.1016/B978-0-12-822945-3.00014-2.
3) Salma Mukhtar, **Naeem Rashid,** Muhammad Farhan Ul Haque and Kauser Abdulla Malik (2022) Metagenomic approach for the isolation of novel extremophiles. In: Microbial Extremozymes, Edited by Mohammed Kuddus, Academic Press. pp 55–66.

doi.org/10.1016/B978-0-12-822945-3.00010-5.

4) Muhammad Sohail Akram, **Naeem Rashid**, and Saadia Basheer (2021) Physiological and molecular basis of plants tolerance to linear halogenated hydrocarbons. In: Handbook of Bioremediation, Edited by Mirza Hasanuzzaman and Majeti Narasimha Vara Prasad, Academic Press. pp 591–602. https://doi.org/10.1016/B978-0-12-819382-2.00037-5
5) Qamar Bashir and **Naeem Rashid*** (2020) NMR as a tool for exploring protein interactions and dynamics. In: Applications of NMR Spectroscopy. Edited by A. Rahman. Bentham Science, Sharjah, United Arab Emirates. pp 121–140. DOI: 10.2174/9789811439971120080008
6) 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. DOI : 10.1079/9781780647234.0170.

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

Sr. #	Publication	Citation (Google Scholar)	Impact Factor (2022)	H-Index of the Journal	HJRS Category
174	Arshia Nazir, Muhammad Irfan, **Naeem Rashid** Muhammad Sajjad (2025) Optimized production purification and biochemical characterization of a novel glycerophosphodiesterase from a hyperthermophilic archaeon *Pyrococcus abyssi* Process Biochem. https://doi.org/10.1016/j.procbio.2025.09.001		3.7	174	W (Bronze)
173	Hamayun Arshad, Qurratulann Afza Gardner **Naeem Rashid,** Muhammad Waris, Muhammad Akhtar (2025) Identification and structural analysis of a surface layer protein from *Geobacillus thermopakistaniensis* MAS1: highlighting its larvicidal potential against *Culex quinquefasciatus Anopheles stephensi* and *Aedes aegypti*. Int J Bio Mac Mol. 315:144307. doi 10.1016/j.ijbiomac.2025.144307.		7.7	166	W (Gold)
172	Zahra Naz, Ishan Rathore, Muhammad Saleem, Moazur Rahman, Alexander Wlodawer* and **Naeem Rashid*** (2025) A bifunctional Phosphoglucomutase/Phosphomannomutase from		4.8		W (Gold)

	Thermococcus kodakarensis: Biophysical Analysis and cryo-EM Structure. Biomolecules 15, 319. https://doi.org/10.3390/biom15030319				
171	Asma Waris, Ali Raza Awan, Muhammad Wasim Abu Seed Hashmi, **Naeem Rashid**, Sehrish Firyal Aisha khalid, Muhammad Tayyab (2024) 3D modeling of thermostable xylanase from Thermotoga naphthophila a member of GH10 family characterization studies of recombinant xylanase https://doi.org/10.1101/2024.09.06.611769				
170	Zara Naz, Jacek Lubkowski, Muhammad Saleem Moazur Rahman, Alexander Wlodawer*, **Naeem Rashid*** (2024) Biophysical Characterization of a Novel Phosphopentomutase from the Hyperthermophilic Archaeon *Thermococcus kodakarensis.* Int. J. Mol. Sci. 25: 12893 https://doi.org/10.3390/ijms252312893		4.9	166	W (Gold)
169	Hafiz Muhammad Khalid, Najam us Sahar Sada Zaidi, **Naeem Rashid**, Muhammad Tahir (2024 Development of an immunodiagnostic assay for the detection of Sugarcane mosaic virus Turk. J. Biol. 48: 390-400. doi:10.55730/1300 0152.2714		0.443	47	X (Clay)
168	Ayesha Sania, Majida Atta Muhammad Muhammad Sajed, Nasir Ahmad, Mehwish Aslam Xiao-Feng Tang and **Naeem Rashid*** (2024 Engineering Tk1656, a highly active L-asparaginase from *Thermococcus kodakarensis*, for enhanced activity and stability. Int. J. Biol. Macromol. 281 136442. https://doi.org/10.1016/j.ijbiomac.2024.136442		7.7	166	W (Gold)
167	Ayesha Sania, Muhammad Sajed, **Naeem Rashid** (2024) Looking into the thermostable archaeal L asparaginases. Biologia. 79:3637–3648 https://doi.org/10.1007/s11756-024-01801-7.		1.653	45	X (Clay)
166	Abeera Shaeer, Iqra Aroob, Mehwish Aslam Naseema Azim, and **Naeem Rashid*** (2024 Investigating recombinant manganese-catalases from *Geobacillus thermopakistaniensis* fo sustainable and eco-friendly textile processing. Int J. Environ. Sci. Technol https://doi.org/10.1007/s13762-024-06072-y.		3.519	93	W (Bronze)

165	Sabah Mansoor, Sehrish Firyal, Ali Raza Awan **Naeem Rashid**, Nasir Ahmad, Abu Saeed Hashmi Muhammad Azam, Muhammad Wasim, Shagufta Saeed, Muhammad Tayyab* (2024) Biologica evaluation of locally characterized recombinan thermostable α-amylase in poultry birds. Xi'ar Shiyou Daxue Xuebao (Ziran Kexue Ban)/Journal o Xi'an Shiyou University, Natural Sciences Edition **20:** 30-44. https://doi.org/		0.197	16	X (Null)
164	Amina Maqsood, Nisar Ahmed Shakir, Mehwish Aslam, Moazur Rahman, **Naeem Rashid*** (2024 Structural and Functional investigations o Pcal_0606, a bifunctional phosphoglucose phosphomannose isomerase from *Pyrobaculum calidifontis*. Int. J. Biol. Macromol. 279: 135127 https://doi.org/10.1016/j.ijbiomac.2024.135127		7.7	166	W (Gold)
163	Ayesha Sania, Majida Atta Muhammad Muhammad Sajed, Naseema Azim, Nasir Ahmad Mehwish Aslam and **Naeem Rashid*** (2024 Structural and functional analyses of an L asparaginase from *Geobacillus thermopakistaniensis*. Int. J. Biol. Macromol. **263** 130438. doi.org/10.1016/j.ijbiomac.2024.130438.		8.2	166	W (Gold)
162	Arshia Nazir, Mohsin Shad, **Naeem Rashid,** Naseema Azim, Muhammad Sajjad (2024) Recombinant production and characterization of a metal ion-independent Lysophospholipase from a hyperthermophilic archaeon *Pyrococcus abyssi* DSM25543. Int J Biol Macromol. **259:** 129345. doi: 10.1016/j.ijbiomac.2024.129345.		8.025	166	W (Gold)
161	Hafiz Muhammad Khalid, Najam us Sahar Sadaf Zaidi, Naeem Rashid, Muhammad Tahir * (2024) Development of polyclonal antibodies against the recombinant protein of Barley yellow dwarf virus. Asian J Agric & Biol. 2024(1): 2023127. DOI: 10.35495/ajab.2023.127		0.28	13	X (Null)
160	Iqra Aroob, Nasir Ahmad, Mehwish Aslam, Abeera Shaeer, and **Naeem Rashid*** (2024 Ethylenediaminetetraacetic acid enhances structural stability and thermotolerance o recombinant cyclomaltodextrinase from *Geobacillus thermopakistaniensis* at highe temperatures. Biologia **79:** 191–198 doi.org/10.1007/s11756-023-01542-z		1.653	45	X (Clay)

159	Qamar Abbas, Majida Atta Muhammad, Nisar Ahmad Shakir, Mehwish Aslam, and **Naeem Rashid*** (2023) Molecular cloning and characterization of Pcal_0039, an ATP-/NAD^+-independent DNA ligase from hyperthermophilic archaeon *Pyrobaculum calidifontis*. Int. J. Biol. Macromol. **253:** 126711 doi.org/10.1016/j.ijbiomac.2023.126711		8.025	166	W (Gold)
158	Majida Atta Muhammad, Nasir Ahmad, Mohsina Akhter, **Naeem Rashid*** (2023) Structural and functional analyses of Pcal_0917, an α-glucosidase from hyperthermophilic archaeon *Pyrobaculum calidifontis*. Int. J. Biol. Macromol. **244:**125446 doi.org/10.1016/j.ijbiomac.2023.125446.		8.025	166	W (Gold)
157	Shazeel Ahmad, Syed Farhat Ali, Saima Iftikhar and **Naeem Rashid*** (2023) Engineering a DNA polymerase from *Pyrobaculum calidifontis* for improved activity, processivity and extension rate. Int. J. Biol. Macromol. **233:** 123545. doi 10.1016/j.ijbiomac.2023.123545.		8.025	166	W (Gold)
156	Sumaira Mehboob, Tuba Ahmad, Ramzan Ali, Nasir Ahmad, Hamama Islam Butt, Shahzad Bashir, **Naeem Rashid** (2023) Molecular cloning and production of recombinant Pcal_0672, a family GH57 glycoside hydrolase from *Pyrobaculum calidifontis*. Biologia **78:**1861-1874. https://doi.org/10.1007/s11756-023-01338-1		1.653	45	X (Clay)
155	Iqra Aroob, Asifa Maqbool, Nasir Ahmad, Mehwish Aslam, Abeera Shaeer and **Naeem Rashid*** (2023) Pcal_0976, a pullulanase homologue from *Pyrobaculum calidifontis*, displays a glycoside hydrolase activity but no pullulanase activity. Biologia **78:** 1875-1887 https://doi.org/10.1007/s11756-022-01309-y.	0	1.653	45	X (Clay)
154	Nisar Ahmed Shakir$^+$, Mehwish Aslam$^+$, Tahira Bibi, Samia Falak, Naeem Rashid* (2023) Functional analyses of a highly thermostable hexokinase from *Pyrobaculum calidifontis*. Carbohydr Res. 523: 108711. doi.org/10.1016/j.carres.2022.108711	0	2.975	143	X (Honorable Mention)

153	Syed Farhat Ali, Kashif Maseh, Shazeel Ahmad, and **Naeem Rashid** (2023) Cost-effective, high-yield production of *Pyrobaculum calidifontis* DNA polymerase for PCR application. Prep. Biochem. Biotechnol. 53(6):704-711. https://doi.org/10.1080/10826068.2022.2137731	0	3.14	35	X (Null)
152	Muhammad Sajed, Samia Falak, Majida Atta Muhammad, Nasir Ahmad, **Naeem Rashid*** (2022 A plant-type L-asparaginase from *Pyrobaculum calidifontis* undergoes temperature dependent autocleavage. Biologia **77:** 3623-3631. DOI:10.1007/s11756-022-01215-3	0	1.653	45	X (Clay)
151	Syed Nasim Abbas, Mehwish Aslam, Hafiza Zumra Fatima, Muhammad Arshad Javed, **Naeem Rashid*** (2022) Pcal_2031, a RecA/Rad51 homologue from *Pyrobaculum calidifontis* complements the ultraviolet light sensitivity o *Escherichia coli.* Biologia. **77:**3319-3326 https://doi.org/10.1007/s11756-022-01187-4	0	1.653	45	X (Clay)
150	Abeera Shaeer, Mehwish Aslam, Iqra Aroob **Naeem Rashid*** (2022) Role of C-terminal domain in a manganese-catalase from *Geobacillus thermopakistaniensis.* J. Biosci. Bioeng. **134(3)** 203-212. https://doi.org/10.1016/j.jbiosc.2022.06.010	0	3.185	121	X (Clay)
149	Muhammad Sajed, Nasir Ahmad**, Naeem Rashid** (2022) Temperature dependent autocleavage and applications of an L-asparaginase from *Thermococcus kodakarensis* for acrylamide mitigation in food items. 3 Biotech. **12:**129. DOI 10.1007/s13205-022-03197-0.	1	2.893	49	
148	Samia Falak, Muhammad Sulaiman Saeed, **Naeem Rashid*** (2022) Molecular cloning, expression in *Escherichia coli* and structural-functional analysis of a pyruvate kinase from *Pyrobaculum calidifontis*. Int. J. Biol. Macromol. **209:** 1410–1421. https://doi.org/10.1016/j.ijbiomac.2022.04.144.	2	8.025	166	W (Gold)
147	Samia Falak, Muhammad Sajed and **Naeem Rashid*** (2022) Strategies to enhance soluble production of heterologous proteins in *Escherichia coli*. Biologia **77:** 893–905 DOI: 10.1007/s11756-021-00994-5	4	1.653	45	X (Clay)

146	Iqra Aroob, Maryam Javed, Nasir Ahmad, Mehwish Aslam, and **Naeem Rashid*** (2021) Investigating the role of carbohydrate binding module 34 in cyclomaltodextrinase from *Geobacillus thermopakistaniensis*: structural and functional analyses. 3 Biotech. **12:** 25. DOI: 10.1007/s13205-021-03089-9	1	2.893	49	
145	Abeera Shaeer, Mehwish Aslam, Farhan Aziz, Iqra Aroob and **Naeem Rashid*** (2021) Looking into a highly thermostable and efficient recombinant manganese-catalase from *Geobacillus thermopakistaniensis.* J. Biosci. Bioeng. **133(1)** 25-32. doi.org/10.1016/j.jbiosc.2021.09.012.	1	3.185	121	X (Clay)
144	Shazeel Ahmad, Syed Farhat Ali, Naseema Azim **Naeem Rashid*** (2021) Studies on enhancement of production of recombinant DNA polymerase originated from *Pyrobaculum calidifontis*. Biologia **76:** 3579–3586. DOI : 10.1007/s11756-021-00887-7	1	1.653	45	X (Clay)
143	Iqra Aroob, Nasir Ahmad, **Naeem Rashid*** (2021) Cyclodextrin-preferring glycoside hydrolases properties and applications. Amylase 2021; 5: 23-37.	3			
142	M. Farhan ul Haque, S. Sadia Bukhari, Rabia Ejaz Faheem uz Zaman, K. Rajan Sreejith, **Naeem Rashid**, Muhammad Umer and Naveed Shahzad (2021) A novel RdRp-based colorimetric RT-LAMP assay for rapid and sensitive detection of SARS-CoV-2 in clinical and sewage samples from Pakistan. Virus Res. **302:** 198484. DOI: 10.1016/j.virusres.2021.198484	12	6.286	136	W (Bronze)
141	Abeera Shaeer, Mehwish Aslam and **Naeem Rashid*** (2021) Structural and functional analyses of a novel manganese-catalase from *Bacillus subtilis* R5. Int. J. Biol. Macromol. **80:** 222-233. doi 10.1016/j.ijbiomac.2021.03.074.	4	8.025	166	W (Gold)
140	Khadija Rafiq, Muhammad Sohail Akram Muhammad Shahid, Uzma Qaisar and **Naeem Rashid*** (2021) *Staphylococcus sciuri* SAT-17 improved the growth of salt stressed maize (*zea mays* l.) By modulated expression of stress responsive genes and anti-oxidative defence mechanisms. Pak. J. Agri. Sci., **57:** 1331-1338 DOI 10.21162/PAKJAS/21.9936	1	0.856	26	Y (Null)

139	Amina Arif, **Naeem Rashid*** and Muhammad Akhtar (2021) Removal of N-terminal methionine of human interferon α-2b by co-producing with *Pyrococcus furiosus* methionine aminopeptidase in *Escherichia coli.* Biologia. **76:**1843–1848 DOI 10.1007/s11756-021-00728-7	0	1.653	45	X (Clay)
138	Nisar Ahmad Shakir, Mehwish Aslam and **Naeem Rashid*** (2021) ADP-dependent glucose/glucosamine kinase from *Thermococcus kodakarensis*: cloning and characterization. Int. J Biol. Macromol. **173:** 168−179 https://doi.org/10.1016/j.ijbiomac.2021.01.019	3	8.025	166	W (Gold)
137	Huma Naz, Sheeren Gul, Qamar Bashir, **Naeem Rashid** and H. Naveed Shahzad (2021 *Thermococcus kodakarensis*-derived L asparaginase: a candidate for the treatment of glioblastoma. Biologia.**76**:1305–1314 doi.org/10.2478/s11756-021-00678-0.	2	1.653	45	X (Clay)
136	Khurram Jahangir Toor, Nasir Ahmad, Majida Atta Muhammad and **Naeem Rashid*** (2020) TK-PUL, a pullulan hydrolase type III from *Thermococcus kodakarensis*, a potential candidate for simultaneous liquefaction and saccharification of starch. Amylase **4:** 45−55 https://doi.org/10.1515/amylase-2020-0004.	0			
135	Muhammad Sulaiman Saeed, Masood Ahmed Siddiqui and **Naeem Rashid*** (2021) Effect of Y50H and S187G substitutions on thermostability and exonuclease activity of TK1646 from *Thermococcus kodakarensis.* Protein Expr. Purif. **179:** 105799 https://doi.org/10.1016/j.pep.2020.105799	0	2.025	94	X (Null)
134	Huma Naz, Qamar Bashir, **Naeem Rashid** and Hafiz Naveed Shahzad (2021) Isocitrate dehydrogenase 1 gene variants analysis of glioma patients from Pakistan. Ann. Hum. Genet. **85** 73−79. DOI: 10.1111/ahg.12409.	0	2.18	79	X (Clay)
133	Sadaf Ashraf, Kanwal Nisa, Samar Ali, **Naeem Rashid** and Masood Ahmad Siddiqui (2022) Gene cloning and characterization of Pcal_0222, an α amylase from *Pyrobaculum calidifontis*. Pak. J. Zool **54:** 537–542. DOI https://dx.doi.org/10.17582/journal.pjz/20200917190928.	0	0.687	29	X (Null)
132	Sabeel un Naeem, Nasir Ahmad and **Naeem Rashid*** (2020) Pcal_0842, a highly thermostable	5	8.025	166	W (Gold)

	glycosidase from *Pyrobaculum calidifontis* displays both α-1,4- and β-1,4 glycosidic cleavage activities Int. J. Biol. Macromol. **165B:**1745-1754 https://doi.org/10.1016/j.ijbiomac.2020.10.012				
131	Sumaira Mehboob, Nasir Ahmad, Sajida Munir Ramzan Ali, Hooria Younas, **Naeem Rashid** (2020) Gene cloning, expression enhancement in *Escherichia coli* and biochemical characterization of a highly thermostable amylomaltase from *Pyrobaculum calidifontis.* Int. J. Biol. Macromol **165A:**645-653. https://doi.org/10.1016/j.ijbiomac.2020.09.071	10	8.025	166	W (Gold)
130	Anam Iftikhar, Azka Asifa, Asma Manzoor Muhammad Azeem, Ghulam Sarwar, **Naeem Rashid,** Uzma Qaisar* (2020) Mutation in pvcABCD operon of Pseudomonas aeruginosa modulates MexEF-OprN efflux system and hence resistance to chloramphenicol and ciprofloxacin Microb. Pathog. **149:** 104491 https://doi.org/10.1016/j.micpath.2020.104491	9	3.848	89	W (Honorable Mention)
129	Ghazaleh Gharib, Shahid Mahmood Chohan **Naeem Rashid***, Muhammad Akhtar (2020 Heterologous gene expression and characterization of recombinant aspartate aminotransferase from *Geobacillus thermopakistaniensis*. Protein Expression and Purification. **175:** 105709 https://doi.org/10.1016/j.pep.2020.105709	1	2.025	94	X (Null)
128	Khadija Rafiq, Muhammad Sohail Akram Muhammad Shahid, Uzma Qaisar, and **Naeem Rashid*** (2020) Enhancement of salt tolerance in maize (Zea mays L.) using locally isolated *Bacillus* sp. SR-2-1/1. Biologia **75:**1425–1436 doi.org/10.2478/s11756-020-00435-9	18	1.653	45	X (Clay)
127	Kanwal Nisa, Sadaf Ashraf, Masood Ahmed Siddiqui*, Naila Taj, Habib-Ur-Rehman, Arifa Bano and **Naeem Rashid** (2020) Purification and Characterization of a Thermostable Pyruvate Ferredoxin Oxidoreductase/Pyruvate Decarboxylase from *Thermococcus kodakaraensis*. Pak. J. Zool. **52:** 1149-1156. DOI: https://dx.doi.org/10.17582/journal.pjz/20191018081056	3	0.687	29	X (Null)
126	Shahid Mahmood Chohan, Muhammad Sajed Sabeel un Naeem, and **Naeem Rashid*** (2020 Heterologous gene expression and characterization of TK2246, a highly active and thermostable plan	14	8.025	166	W (Gold)

	type L-asparaginase from *Thermococcus kodakarensis.* Int. J. Biol. Macromol. **147:** 131–137 DOI: 10.1016/j.ijbiomac.2020.01.012				
125	Sitara Nasar, **Naeem Rashid** and Saima Iftikhar (2020) Dengue proteins with their role in pathogenesis, and strategies for developing an effective anti-dengue treatment: A Review. J. Med Virol. **92:** 941–955. doi: 10.1002/jmv.25646	31	20.693	145	W (Platinum)
124	Anam Tariq, Alina Gul, Majida Atta Muhammad Samia Falak and **Naeem Rashid*** (2020 *Escherichia coli* signal peptidases cleave the signal sequence of TK0522, a carbohydrate esterase from hyperthermophilic archaeon *Thermococcus kodakarensis.* Pak. J. Zoo. **52:** 789-792. DOI: https://dx.doi.org/10.17582/journal.pjz/20191109101144	0	0.687	29	X (Null)
123	Muhammad Arif, Qamar Bashir, Masood Ahmad Siddiqui and **Naeem Rashid*** (2020) Molecular characterization of a highly efficient and thermostable phosphoribosyl anthranilate isomerase from *Geobacillus thermopakistaniensis* Protein Expr Purif. **166:**105523 https://doi.org/10.1016/j.pep.2019.105523	1	2.025	94	X (Null)
122	Muhammad Sulaiman Saeed and **Naeem Rashid*** (2019) Characterization of TK1646, a highly thermostable 3´–5´ single strand specific exonuclease from *Thermococcus kodakarensis*. Int J. Biol. Macromol. **140:**1194-1201 https://doi.org/10.1016/j.ijbiomac.2019.08.150	2	8.025	166	W (Gold)
121	Abeera Shaeer, Mehwish Aslam and **Naeem Rashid*** (2019) A highly stable manganese catalase from *Geobacillus thermopakistaniensis* molecular cloning and characterization Extremophiles 23:707–718 https://doi.org/10.1007/s00792-019-01124-5	10	3.035	92	X (Clay)
120	Hira Muzammal, Qurat ul Ain, Muhammad Sulaiman Saeed and **Naeem Rashid*** (2019) Gene cloning and characterization of Tk1281, a flap endonuclease 1 from *Thermococcus kodakarensis* Folia Microbiolgica 65: 407-415. https://doi.org/10.1007/s12223-019-00745-9.	1	2.629	56	X (Honorable Mention)
119	Naseema Azim, Qurratulann Afza Gardner, **Naeem Rashid**, Muhammad Akhtar* (2019) Mechanistic studies on *Pyrobaculum calidifontis*	0	5.305	75	W (Bronze)

	porphobilinogen synthase (5-aminolevulinic acid dehydratase). *Bioorganic Chem*. **91:**103117. https://doi.org/10.1016/j.bioorg.2019.103117.				
118	Nisar Ahmed Shakir, Tahira Bibi, Mehwish Aslam and **Naeem Rashid*** (2019) Biochemical characterization of a highly active ADP-dependent phosphofructokinase from *Thermococcus kodakarensis*. *J. Biosci. Bioeng*. 129: 6-15. https://doi.org/10.1016/j.jbiosc.2019.06.014	1	3.185	121	X (Clay)
117	**Naeem Rashid*** and Mehwish Aslam (2020) An overview of twenty-five years of research on *Thermococcus kodakarensis*, a genetically versatile model organism for archaeal research. Folia Microbiologica. 65: 67-78 https://doi.org/10.1007/s12223-019-00730-2	2	2.629	56	X (honorable Mention)
116	Iqra Aroob, Nasir Ahmad, Mehwish Aslam, Abeera Shaeer, **Naeem Rashid*** (2019) A highly active α-cyclodextrin preferring cyclomaltodextrinase from *Geobacillus thermopakistaniensis*. Carbohydr Res. 481:1–8. doi: 10.1016/j.carres.2019.06.004	6	2.975	143	X (Honorable Mention)
115	Sohaib Afzaal, Usman Hameed, Nasir Ahmad **Naeem Rashid**, Muhammad Saleem Haider (2019) Molecular identification and characterization of lactic acid producing bacterial strains isolated from raw and traditionally processed foods of Punjab Pakistan. Pak. J. Zoo. 51: 1145–1153. DOI http://dx.doi.org/10.17582/journal.pjz/2019.51.3.1145.1153	4	0.687	29	X (Null)
114	Anam Tariq, Alina Gul, Majida A. Muhammad, **Naeem Rashid*** & Masood A Siddiqui (2019) Recombinant Tk0522, a carbohydrate esterase homologue from *Thermococcus kodakarensis*, does not require a signal sequence for translocation to periplasmic space in *Escherichia coli*. Biologia 74:899–904 https://doi.org/10.2478/s11756-019-00243-w	1	1.653	45	X (Clay)
113	Naveed Shahzad, Iqra Hussain, Usman Shah Gilani, Asima Tayyeb, Muhammad Amir Aslam Muhammad Khurshid, Umair Hassan, Fareeda Tasneem, Muhammd Umer & **Naeem Rashid** (2019) Merkel cell polyomavirus DNA sequences in	3	3.553	96	X (Clay)

	the blood of healthy population of Pakistan. Future Microbiology **14:**599-608 https://doi.org/10.2217/fmb-2018-0314				
112	Mehwish Akram and **Naeem Rashid** (2019 Inwardly rectifying potassium channels ir Drosophila regulate the sleep/wake behaviou through PDF-neurons. Pak. J. Zoo. 51: 709-715 http://dx.doi.org/10.17582/journal.pjz/2019.51.2.709.715	0	0.687	29	X (Null)
111	Shahid Mahmood Chohan, **Naeem Rashid*** Muhammad Sajed and Tadayuki Imanaka (2019 Pcal_0970, an extremely thermostable L asparaginase from *Pyrobaculum calidifontis* with nc detectable glutaminase activity. Folia Microbiologica 64: 313-320 https://doi.org/10.1007/s12223-018-0656-6.	26	2.629	56	X (honorable Mention)
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105	Habib-ur-Rehman, Masood Ahmed Siddiqui*, Abdu Qayyum, Arifa Bano and **Naeem Rashid** (2018 Gene expression in *Escherichia coli* and purification of recombinant type II pullulanase from a hyperthermophilic archaeon *Pyrobaculum calidifontis*. Pak. J. Zoo. **50:** 1381-1386. DOI:http://dx.doi.org/10.17582/journal.pjz/2018.50.4.1381.1386	11	0.687	29	X (Null)
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102	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 functio of the type III pullulan hydrolase from *Thermococcus kodakarensis. Acta Cryst.* D**74** 305-314. doi: 10.1107/S2059798318001754	16	5.699	148	W (Silver)
101	Tahira Bibi, Musadiq Ali, **Naeem Rashid***, Majida	4	3.035	92	X (Clay)

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99	Iram Aziz, **Naeem Rashid***, Raza Ashraf, Masood Ahmed Siddiqui, Tadayuki Imanaka and Muhammad Akhtar (2018) Pcal_0632, a phosphorylating glyceraldehyde-3-phosphate dehydrogenase from *Pyrobaculum calidifontis* Extremophiles 22: 121-129 https://doi.org/10.1007/s00792-017-0982-7	1	3.035	92	X (Clay)
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97	Raza Ashraf, **Naeem Rashid***, Tamotsu Kanai Tadayuki Imanaka and Muhammad Akhtar (2017) Pcal_1311, an alcohol dehydrogenase homologue from *Pyrobaculum calidifontis*, displays NADH dependent high aldehyde reductase activity Extremophiles 21(6):1101-1110 https://doi.org/10.1007/s00792-017-0970-y	2	3.035	92	X (Clay)
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90	Saadia Basheer, **Naeem Rashid***, Raza Ashraf Muhammad Sohail Akram, Masood Ahmed	16	3.035	92	X (Clay)

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	1210. https://doi.org/10.2478/s11756-011-0125-z				
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43	Muhammad Tayyab, **Naeem Rashid***, Clemen Angkawidjaja, Shigenori Kanaya and Muhammd Akhtar (2011) Highly active metallocarboxypeptidase from newly isolated *Geobacillus* strain SBS-4S: cloning and	10	3.185	121	X (Clay)

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42	Amir Jalal, **Naeem Rashid*,** Nasir Ahmed, Saima Iftikhar and Muhammad Akhtar (2011) *Escherichia coli* signal peptidase recognizes and cleaves the signal sequence of xylanase from a newly isolated *Bacillus subtilis* strain R5. *Biochemistry (Moscow)* **76:** 347-349. doi: 10.1134/s0006297911030084	10	2.824	89	X (Clay)
41	Farrukh Jamil, **Naeem Rashid***, Qurra-tul-Ann Afza Gardner and Muhammad Akhtar (2011) Gene cloning and characterization of glycine oxidase from newly isolated *Bacillus subtilis* strain R5. *Biologia* **66:**1-7. https://doi.org/10.2478/s11756-010-0141-4	1	1.653	45	X (Clay)
40	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. *Int. J. Mass Spectrom.***302:** 36-43 https://doi.org/10.1016/j.ijms.2010.07.020	2	1.986	120	X (Clay)
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34	**Naeem Rashid*,** Alia, Ikram-ul-Haque, and Muhammad Akhtar (2009) Insoluble but enzymatically active α-amylase from *Bacillus licheniformis*. *Biologia* **64:** 660-663 https://doi.org/10.2478/s11756-009-0132-5	10	1.653	45	X (Clay)
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29	M. Saleem Haider*, Muhammad Tahir, Ahlam Saeed, Shakeel Ahmed, Rashida Parveen and **Naeem Rashid** (2008) First report of a begomovirus infecting the ornamental plant *Vinca minor* L. *Australas. Plant Dis. Notes* **3:** 150–151.	7	0.3	17	X (Null)
28	**Naeem Rashid*,** Hiroyuki Imanaka and Tadayuki Imanaka (2008) An archaeal 2-deoxyribose 5 phosphate aldolase that exhibits closer homology to bacteria rather than archaea. *J. Chem. Soc. Pak* **30:** 740-749.	2	0.698	26	Y (Null)
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24	Muhammad Tahir, Muhammad Saleem Haider* Azad Hussain Shah, **Naeem Rashid**, and Faiza	22	2.643	55	X (Clay)

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19	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. *J. Bacteriol*.**186:** 5799-5807 doi: 10.1128/JB.186.17.5799-5807.2004.	120	3.476	265	W (Bronze)
18	**Naeem Rashid**, Hiroyuki Imanaka, Toshiaki Fukui, Haruyuki Atomi, and Tadayuki Imanaka* (2004	60	3.476	265	W (Bronze)

	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 *Thermococcus kodakaraensis*. *J. Bacteriol.***186:** 4185-4191. doi: 10.1128/JB.186.13.4185-4191.2004.				
17	Takeshi Kanamori, **Naeem Rashid**, Masaaki Morikawa, Haruyuki Atomi, and Tadayuki Imanaka (2002) *Oleomonas sagaranensis* gen. nov. represents a novel genus in the α-Proteobacteria. *FEMS Microbiol. Lett*. **217:** 255-261. doi 10.1111/j.1574-6968.2002.tb11484.x	34	2.82	158	X (Clay)
16	**Naeem Rashid**, Hiroyuki Imanaka, Tamotsu Kanai, Toshiaki Fukui, Haruyuki Atomi, and Tadayuki Imanaka* (2002) A novel candidate for the true fructose 1,6-bisphosphatase in archaea. *J. Biol Chem*. **277:** 30649-30655. doi 10.1074/jbc.M202868200	89	3.595	544	W (Gold)
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13	**Naeem Rashid**, Masaaki Morikawa, Shigenori Kanaya, Haruyuki Atomi, and Tadayuki Imanaka (2001) RecA/Rad51 homologue from *Thermococcus kodakaraensis* KOD1. *Method Enzymol*. **334:** 261-270. doi: 10.1016/s0076-6879(01)34474-9	27	1.682	177	Y (Null)

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9	Fouad Al-Momani*, **Naeem Rashid** and Sheikh Riazuddin (1998) Occurrence and distribution o crown gall disease in some plants of Pakistan *Bangl. J. Bot.* **27:** 47-50.	1	0.339	20	Y (Null)
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7	**Naeem Rashid,** Masaaki Morikawa, Keisuke Nagahisa, Shigenori Kanaya, and Tadayuk Imanaka* (1997) Characterization of a RecA/RAD51 homologue from the hyperthermophilic archaeon *Pyrococcus* sp. KOD1 *Nucleic Acids Res*. **25:** 719-726. doi 10.1093/nar/25.4.719	34	19.16	607	W (Platinum)
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2	**Naeem Rashid***, Masaaki Morikawa, and Tadayuk Imanaka (1994) Cloning and analysis of 16S-rRNA gene and transcription factor (TF) IID gene from a hyperthermophilic archaeon strain KOD1. *Annu Rep. ICBiotech*. **17:** 255-270.	0	0		
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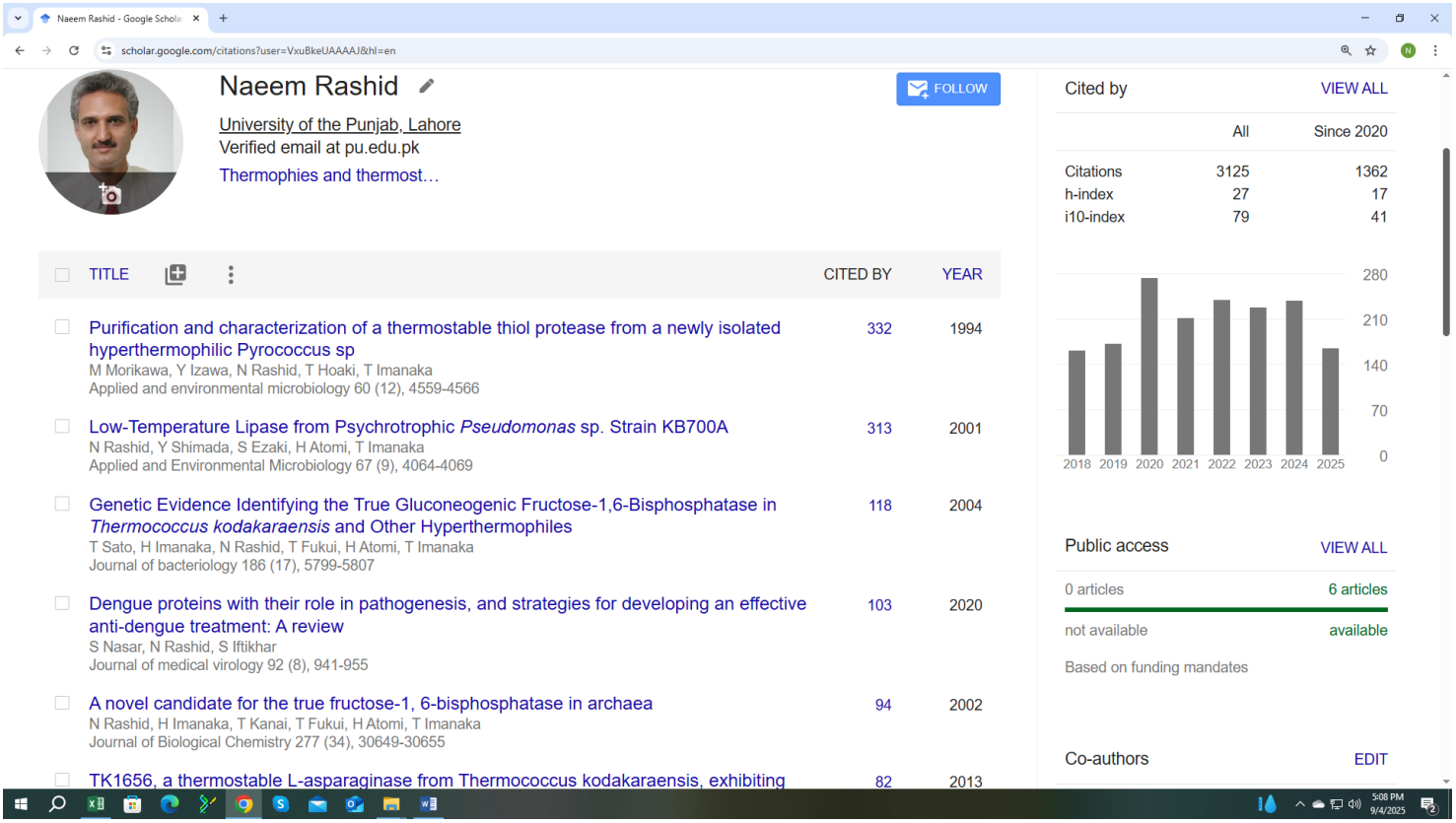
Total Citations: **3125**
Total Impact Factor: **557.378**
First/Corresponding author Publications: **104**



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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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1) LC602265. *Bacillus subtilis* R5 CatBsu gene for manganese catalase, complete cds https://www.ncbi.nlm.nih.gov/nuccore/LC602265

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

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

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

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

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

7) AB306520. *Geobacillus* sp. sbs4L gene for 16S rRNA gi|161408107|dbj|AB306520.1| [161408107]

8) AB306519. *Geobacillus* sp. sbs4s gene for 16S rRNA gi|161408106|dbj|AB306519.1| [161408106]

9) AB306518. *Geobacillus* sp. sbs3 gene for 16S rRNA gi|161408105|dbj| AB306518.1| [161408105]

10) AB218809. *Bacillus* sp. CMBL-Pb14 gene for 16S rRNA, partial sequence, isolate:CMBL-Pb14 gi|83627338|dbj|AB218809.1|[83627338]

11) AB218808. *Bacillus* sp. CMBL-Pb13 gene for 16S rRNA, partial sequence, isolate:CMBL-Pb13 gi|83627337|dbj|AB218808.1|[83627337]

12) AB218807. *Bacillus subtilis* gene for 16S rRNA, partial sequence, isolate:CMBL-Pb12 gi|83627336|dbj|AB218807.1|[83627336]

13) AB218806. *Bacillus* sp. CMBL-Pb11 gene for 16S rRNA, partial sequence, isolate:CMBL-Pb11 gi|83627335|dbj|AB218806.1|[83627335]

14) AB218805. *Bacillus subtilis* gene for 16S rRNA, partial sequence, isolate:CMBL-Pb10 gi|83627334|dbj|AB218805.1|[83627334]

15) AB218804. *Bacillus subtilis* gene for 16S rRNA, partial sequence, isolate:CMBL-Pb9 gi|83627333|dbj|AB218804.1|[83627333]

16) D83176. *Thermococcus kodakarensis* KOD1 Pk-rec gene, complete cds gi|6009934|dbj|D83176.2|[6009934]

17) AB257199. *Bacillus subtilis* gene for 16S rRNA, strain:R5 gi|92109227|dbj|AB257199.1|[92109227]

18) AB126242. *Thermococcus kodakaraensis* Tko1797 gene for phosphosugar mutase, complete cds gi|51870682|dbj|AB126242.1|[51870682]

19) AB126241. *Thermococcus kodakaraensis* Tko1621 gene for phosphoglucomutase, complete cds gi|51870680|dbj|AB126241.1|[51870680]

20) AB126240. Thermococcus kodakaraensis Tko1062 gene for phosphosugar mutase, complete cds gi|51870678|dbj|AB126240.1|[51870678]

21) AB126239. *Thermococcus kodakaraensis* Tko0866 gene for phosphopentomutase, complete cds gi|48958320|dbj|AB126239.1|[48958320]

22) AB092961. *Thermococcus kodakaraensisdeoC* gene for 2-deoxyribose 5-phosphate aldolase, complete cds gi|29603485|dbj|AB092961.1|[29603485]

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

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

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

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

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

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

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

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

PhD Theses Supervised:

1) Crystallization and Structural Studies of Enzymes Involved in Carbohydrate Metabolism in Hyperthermophilic Archaeon *Thermococcus kodakarensis* Zahra Naz; May 2025).
2) Comparative studies on thermostable L-asparaginases and their clinical and industrial applications (Muhammad Sajed; April 2024).
3) Comparative studies on glycolytic kinases from hyperthermophilic archaeon *Pyrobaculum calidifontis* (Samia Falak; February 2024).
4) Comparative studies on recombinant catalases of thermophilic (*Geobacillus thermopakistaniensis*) and mesophilic (*Bacillus subtilis* R5) origin (Abeera Shaeer; March 2022).
5) Construction of mutants of DNA polymerase from *Pyrobaculum calidifontis* for improved characteristic (Shazeel Ahmad; February 2022).
6) Synthesis, characterization and applications of recombinant cyclomaltodextrinase from *Geobacillus thermopakistaniensis* (Iqra Aroob; December 2021).
7) Production of recombinant starch hydrolyzing enzymes of hyperthermophilic origin and their industrial applications (Majida Atta Muhammad; September 2021).
8) Molecular and biochemical analysis of salt tolerance in maize (*Zea mays* L.) genotypes in response to plant growth promoting rhizobacteria (Khadija Rafiq June 2021)

9) Gene cloning, expression in *Escherichia coli* and characterization of recombinant exonuclease from *Thermococcus kodakarensis* (Muhammad Sulaiman Saeed September 2020)

10) Studies on enzymes involved in DNA-Protein interactions in hyperthermophilic archaea (Hira Muzzamal September 2020)

11) Gene cloning and characterization of indole-3-glycerol-phosphte synthase, a key enzyme of biosynthetic pathway in hyperthermophilic archaeon *Pyrococcus furiosus* (Muhammad Arif September 2020)

12) Comparative studies on thermostable esterases of bacterial and archaeal origins (Ms Anam Tariq August 2020).

13) A *Drosophila* model to unravel functional roles for key neuroendocrine metabolic signaling nodes (Ms. Mehwish Akram August 2020).

14) Cloning and characterization of thermostable glucokinase and phosphofructokinase from *Thermococcus kodakarensis* (Nisar Ahmed Shakir April 2020).

15) Tryptophan biosynthesis pathway in hyperthermophilic archaeon, *Thermococcus kodakarensis* (Sumera Perveen October 8, 2018). Postdocterate Canada.

16) Comparative Studies on Recombinant Laccases of Thermophilic (*Geobacillus* SBS-4S) and Mesophilic (*Bacillus* strain R5) origins (Saadia Basheer January 22, 2018)

17) Comparative studies on Alcohol dehydrogenases from mesophilic (*Bacillus subtilis* R5) and hyperthermophilic (*Pyrobaculum calidifontis*) origins (Raza Asharf September 28, 2017)

18) Cloning and characterization of glyceraldehyde-3-phosphate dehydrogenase and fructose 1,6-bisphosphatase from hyperthermophilic archaeon *Pyrobaculum calidifontis* (Iram Aziz September 22, 2017). Postdocterate Germany.

19) Thermostable kinases from *Pyrobaculum calidifontis*: cloning and

characterization (Tahira Bibi September 13, 2017). Assistant Professor, KE University, Lahore.

20) Molecular cloning and characterization of two clinically important enzymes, malate dehydrogenase and aspartate aminotransferase, of thermophilic and hyperthermophilic origins (Ghazaleh Gharib 3rd September, 2016).

21) Glycosyl hydrolases from hyperthermophilic archaeon *Pyrobaculum calidifontis*: cloning and characterization (Sumaira Mehboob 1st March, 2016).

22) Optimization of Conditions for the Folding and Bioprocessing of Different Derivatives of Human Insulin (Munir Ahmad 31 Dec 2015) SBS Punjab University

23) Studies on L-asparaginases from mesophilic and thermophilic microorganisms (Shahid Mahmood Chohan 2015). Punjab Forensic Agency, Lahore.

24) Heme biosynthetic pathway in hyperthermophilic archaea (Naseema Azim 2014). Senior Research Officer, SBS, Punjab University, Lahore.

25) Studies on the engineering of human interferon α2-b derivatives: chimera and conjugate (Fatima Ahsan 2014). Assistant Professor, UVAS, Lahore.

26) Studies on reverse gyrase from hyperthermophilic archaeon Pyrobaculum calidifontis (Anmbreen Jamroze 2014). Post Doctorate Fellow, LUMS, Lahore.

27) 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.

28) 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.

29) Studies on Hepatitis C virus genes encoding structural and non-structural proteins from Pakistani isolates. (Faisal Bashir 2014).

30) Angiotensin-I converting enzyme gene insertion/deletion polymorphism and its

association with albuminuria in type 2 diabetic patients. (Nakhshab Chaudhry 2013) Professor, King Edwards Medical University, Lahore

31) Molecular characterization of virus(es) infecting hollyhock (Alcea rosea L.) samples exhibiting different symptoms. (Muhammad Zia-ur-Rehman 2012) Associate Professor, Govt. Science College, Wahdat Road, Lahore

32) Amylolytic enzyme(s) from hyperthermophilic archaea: cloning and characterization. (Nasir Ahmad 2012) Assistant Professor, Institute of Agricultural Sciences, University of the Punjab, Lahore

33) Engineering of modified derivatives of proinsulin for the production of human insulin. (Hina Zain 2012) Assistant Professor, Lahore College for Women University, Lahore

34) Cloning, expression and physico-chemical analysis of proinsulin and its derivatives. (Farheen Aslam 2012) Assistant Professor, Lahore College for Women University, Lahore

35) Mechanistic and stereochemical studies on 2-amino-3-ketobutyrate CoA ligase and related enzymes. (Farrukh Jamil 2011) Assistant Professor, COMSAT Sahiwal.

36) Hydrolytic enzyme(s) from newly isolated thermophilic strain from Pakistan (Muhammad Tayyab, 2011) Associate Professor, University of Veterinary and Animal Sciences, Lahore

37) Study of DNA polymerase from a hyperthermophilic archaeon *Pyrobaculum calidifontis* (Syed Farhat Ali, 2011) Assistant Professor, FC College University, Lahore

38) Characterization of thermostable proteases from *Thermococcus kodakaraensis* (Nauman Rasool, 2010) Forensic Scientist, Punjab Forensic Science Agency, Lahore

39) Cloning and characterization of hydrolytic enzymes from bacterial strain R5. (Amir Jalal, 2010) Assistant Professor, Sahara Medical University, Narowal

40) Cloning, expression and mutational analysis of human interferon α-2 gene and

isolation of antiviral gene sequence. (Nasir Mahmood, 2010) Assistant Professor, University of Health Sciences, Lahore

41) Molecular Biological studies on Buffalo (*Bubalus bubalis*) proinsulin and their application in the preparation of native and modified hormone derivatives (Hooriya Younas, 2009) Assistant Professor, Kinnaird College for Women, Lahore

42) Studies on the production of recombinant human insulin and its precursors. (Qurat-ul-Ain Afza Gardner, 2009) Associate Professor, School of Biological Sciences, University of the Punjab, Lahore

M. Phil Theses Supervised:

1) Recombinant production and characterization of phosphoglucose isomerase from *Pyrobaculum calidifontis* (Amina Maqsood 2022)

2) Molecular cloning and heterologous production of Pcal_0970 (a plant type L-asparaginase) from hyperthermophilic archaeon *Pyrobaculum calidifontis* (Tooba Hussain 2022)

3) Economical production of recombinant pullulanase from *Thermococcus kodakarensis* and its applications (Nimra Abbas 2022)

4) Cost-effective production of recombinant amylase for starch processing (Amna Ilyas 2022)

5) Recombinant production of L-asparaginase from *Thermococcus kodakarensis* for functional and application studies (Rameesha Arif 2022)

6) Studies on truncation of carbohydrate binding module (CBM-34) in cyclomaltodextrinase from *Geobacillus thermopakistaniensis* (Maryam Javed 2021)

7) Recombinant production, purification and characterization of a cellulase homologue from *Pyrobaculum calidifontis* (Saba Mobeen 2021)

8) Studies on recombinant production of DNA polymerase from Geobacillus sp. (Aqsa Anwar 2021)

9) *In vivo* soluble production of recombinant manganese catalase from *Geobacillus thermopakistaniensis* (Farhan Aziz 2020)

10) Heterologous expression in E. coli and characterization of recombinant Pcal_0976 from *Pyrobaculum calidifontis* (Asifa 2020)

11) Bioinformatic studies on a copper oxidase from *Geobacillus thermopakistaniensis* (Saman 2020)

12) Molecular cloning and characterization of recombinant Pcal_2031, a Rad51-like protein homologue from *Pyrobaculum calidifontis* (Syed Nasim Abbas 2019)

13) Molecular characterization of recombinant Pcal_0762, a transcriptional regulator homologue from *Pyrobaculum calidifontis* (Hafiza Zumra Fatima Hussain 2019)

14) Molecular cloning, production and optimization of recombinant phytases from mesophilic and thermophilic sources (Rabia Mukhtar 2018)

15) Cloning and characterization of α-amylase from *Anoxibacillus* (Rabia Rafique 2018)

16) Molecular cloning and production, in Escherichia coli, of copper oxidase from *Geobacillus thermopakistaniensis* with modified signal sequence (Maryam Shakeel 2017)

17) Molecular cloning and characterization of TK0522, a probable carbohydrate esterase from hyperthermophilic archaeon *Thermococcus kodakarensis* (Aleena Gul 2016)

18) Gene cloning, expression in *Escherichia coli* and characterization of TK1401, a probable carboxylesterase/lipase from hyperthermophilic archaeon *Thermococcus kodakarensis* (Tooba Zahid 2016)

19) Gene cloning and characterization of TK1884, an α–amylase from *Thermococcus kodakarensis* (Samia Falak 2016)

20) Gene cloning, with and without signal sequence, expression in *Escherichia coli* and characterization of a thermostable pullulanase from *Thermococcus kodakarensis* (Majida Atta Muhammad 2016)

21) Gene cloning, with and without signal sequence, expression in *Escherichia coli* and characterization of pullulanase from *Pyrobaculum calidifontis* (Ayesha Pervez 2016)

22) Gene cloning and expression, in *Escherichia coli*, of a hexokinase/glucokinase homologue from hyperthermophilic archaeon *Pyrobaculum calidifontis* (Musadiq Ali 2015)

23) Cloning and expression of α-amylase from *Bacillus licheniformis*, with and without signal sequence, and characterization of the gene product. (Barizah Malik 2012)

24) Characterization of thermostable pullulanase from *Thermococcus kodakaraensis*. (Mehwish Akram 2012)
25) Gene cloning and expression, in *Escherichia coli*, of tryptophan synthase α- and β-subunit from hyperthermophilc archaeon *Pyrobaculum caladifontis*. (Sumera Perveen 2012)
26) Gene cloning and characterization of a novel NAD(P)H oxidase from *Thermococcus kodakaraensis*. (Muhammad Hassan Shafiq 2012)
27) Comparative studies on NADH oxidases from hyperthermophilic archaeon *Thermocccoccus kodakarensis*. (Muhammad Atif Nisar 2011)
28) Characterization of 4-α-glucanotransferase from *Pyrobaculum caladifontis*. (Aslam Shehzad 2010)
29) Cloning and characterization of flap-endonuclease from *Thermococcus kodakaraensis.* (Qurat-ul-Ain 2009)
30) NADH Oxidase from *Thermococcuskodakaraensis.*(Saira Hameed 2009)
31) Cloning and characterization of NADH oxidase from hyperthermophilic archaeon *Thermococcus kodakaraensis.* (Saira Akmal 2008)
32) Gene cloning, expression and purification of thermostable NADH oxidase. (Fareeha Tasleem 2008)
33) Cloning and characterization of lipase from *Bacillus subtilis* strain R5. (Mariam Zameer 2008)
34) Cloning and characterization of α–amylase from *Bacillus licheniformis*. (Alia Farooq 2007)
35) Purification and characterization of α–amylase from *Bacillus licheniformis.* (Farrah Naz 2007)

Competitive Research Project Grants:

Sr. # (as PI)	**Projects Title**	**Amount (Pak Rs.)**	**Sponsoring Agency**
1)	Recombinant production and process optimization of thermostable L-asparaginases for therapeutic and industrial applications (CPEC-24)	21,141,286/-	CPEC-HEC
2)	Development, production and commercialization of VP2 viral vector vaccine for infectious bursal disease (Gumboro)	76,500,000/-	HEC, Pakistan
3)	Discovering the missing phosphofructokinase in hyperthermophilic archaeon	6,824,100/-	HEC, Pakistan

Pyrobaculum caladifontis
(HEC 20-2024)

4) Cloning and characterization of a thermostable DNA polymerase	3,046,470/-	HEC, Pakistan
5) Production and characterization of recombinant laccase from locally isolated thermophillic *Geobacillus* strain SBS-4S	1,673,480/=	PSF, Pakistan
6) Characterization of thermostable DNA ligase	1,000,000/-	HEC, Pakistan

(as Co-PI)

1) Production of recombinant DNA Polymerase for rapid diagnostics of infectious diseases (NRPU 15727)	4,566,100/-	HEC, Pakistan
2) Production enhancement and PCR application of an archaeal DNA polymerase – an important diagnostic enzyme	6,824,400/-	HEC, Pakistan
3) Engineering a Laccase-Xylanase bifunctional enzyme to improve biomass conversion (Project # 20-13589/NRPU/R&D/HEC/2020)	10,234,770/-	HEC Pakistan
4) Development of Immuno and On-site Lateral Flow Strip Assay Kit for Diagnosis of Infectious Bursal Disease in Poultry (AS 015)	3574000/-	PARC Pakistan
5) Optimization of simultaneous liquefaction and saccharification: a novel process developed by using newly discovered thermoacidophilic pullulanase. (NRPU No.8527)	7,379,292/-	HEC Pakistan
6) Process scale up and optimization	14,000,000/-	HEC Pakistan

for synthesis of thermostable industrial enzymes (TDF 02-069)

7) Characterization of immunogenic regions of Dengue Virus for potential vaccine (7136/Punjab NRPU/R&D/HEC/2017) — 6,179,468/- — HEC Pakistan

8) Production and characterization of recombinant DNA ligase from *Pyrobaculum calidifontis* (21-2087/SRGP/HEC/ 2018) — 490,000/- — HEC Pakistan

9) Characterization of Laccase from halophilic archaeal strain isolated from halophytes (Project # 2432) — 485000/- — HEC Pakistan

10) Cloning, sequencing, and expression of gene and biochemical characterization of starch hydrolyzing enzyme pullulanase from hyperthermophilic archaeon *Pyrobaculum calidifontis* — 3,261,635/- — HEC, Pakistan

Honors and Awards:

1) UNESCO Fellowship
2) MONBUSHO Fellowship
3) Kyoto University Fellowship
4) JST Fellowship
5) Research Productivity Award (PCST)
6) Member BOG (CEMB)
7) Member BOS (KEMU)
8) Member BOS (LCWU)
9) Member BOS (GCU)
10) Member BOS (NIBGE)
11) Member BOS (CEMB)
12) Member BOS (FA, PU)