

# **DR. NASIR AHMAD**

(Associate Professor)

School of Biological Sciences,  
University of the Punjab, Lahore, Pakistan  
<https://orcid.org/0000-0002-4442-8928>

Contact numbers: +92-42-99230-960, +92-0331-4408881, +92-0300-4571688  
Fax: 0092-42-99230-980

E-mail: [mna.sbs@pu.edu.pk](mailto:mna.sbs@pu.edu.pk), [mna.pk1@gmail.com](mailto:mna.pk1@gmail.com)



Father's Name: Rashid Ahmad

Date of Birth: 23-03-1978

N.I.C #: 36402-9694539-1

Marital Status: Married

## **Academic Qualification:**

Certificate/ Degree	Major subjects	Institution	Year		Marks/ CGPA	Division / Grade
<b>Ph.D. Biological Sciences</b>	Food Biotechnology	University of the Punjab, Lahore	Thesis	2012	Successfully defended	
			Comprehensive exam	2008	4.00/4.00	1 <sup>st</sup> Division
			Graduate Record Exam (GRE, International)	2008	Percentile "83" Scaled score "620"	Qualified
			Course work	2006	3.70/4.00	1 <sup>st</sup> Division
<b>M.Sc. (Hons.) Food Technology</b>	Food Technology	University of Agriculture, Faisalabad	2002		3.88/4.00	1 <sup>st</sup> Division
<b>B.Sc. (Hons.) Agriculture</b>	Food Technology	University of Agriculture, Faisalabad	2000		3.75/4.00	1 <sup>st</sup> Division
<b>F.Sc.</b>	Biology, Physics, Chemistry	B.I.S.E Multan	1996		761 / 1100 (69.18 %)	1 <sup>st</sup> Division
<b>Matriculation</b>	Biology, Physics, Chemistry, Mathematics	B.I.S.E Multan	1993		650 / 850 (76.47 %)	1 <sup>st</sup> Division

## **Ph.D. Thesis Title:**

Amylolytic Enzyme(s) from Hyperthermophilic Archaea: Cloning and Characterization

## **Teaching Experience:**

- Serving as ***Tenured Associate Professor*** at ***School of Biological Sciences, University of the Punjab, Lahore***, since May 2022 to date.
- Served as ***Assistant Professor (TTS)*** at ***School of Biological Sciences, University of the Punjab, Lahore***, since April 2018 to May 2022.
- Served as ***Assistant Professor (TTS)*** at ***Institute of Agricultural Sciences, University of the Punjab, Lahore***, since April 2015 to April 2018.
- Served as ***Assistant Professor (on contract basis)*** at ***Institute of Agricultural Sciences, University of the Punjab, Lahore***, since April 2013 to April 2015.
- Served as ***Lecturer (on ad-hoc basis)*** at ***Institute of Agricultural Sciences, University of the Punjab, Lahore***, since December 2011 to April 2013
- Served as ***Part Time Lecturer*** at ***Institute of Agricultural Sciences, University of the Punjab, Lahore***, since November 2010 to December 2011.
- Served as ***Part Time Lecturer*** at ***School of Biological Sciences, University of the Punjab, Lahore*** since March 2010 to December 2011. I was a part of the team teaching PhD students in connection with their preparation of International GRE (subject).

## **Work Experience:.**

### **Standard Fruits Ltd. (Golden Juices)**

Served as ***Assistant Manager Production*** at ***Standard Fruits Ltd. (Golden Juices), Phool Nagar*** from March 2004 to March 2005. Key responsibilities were production and quality assurance of fruit pulp and juices besides research and development of new formulations.

### **Qarshi Research International, Hattar**

Served as ***Executive Quality Assurance*** at ***Qarshi Research International, Hattar*** from August 2003 to January 2004. Key responsibilities were quality assurance and analysis of food supplements, refreshing syrups, farm products and herbal medicines.

### **Kohinoor Smiths (Pvt.) Ltd.**

Six weeks training at ***Kohinoor Smiths (Pvt) Ltd. Raiwind Road, Lahore***. Key responsibilities were quality assurance and analysis of snack foods including potato chips, nimko and fried peanuts.

## **Research Interests:**

- Food Enzymology; production and applications of thermostable enzymes in food processing
- Purification, characterization and applications of industrial enzymes
- Valorization of agro-industrial wastes
- Food Biotechnology, Probiotics and Prebiotics, Functional Foods & Nutraceuticals

## **Awards and Research Grants:**

### **HEC Best Innovator Award 2015/2016**

- Won HEC Best Innovator Award 2015/2016

### **Technology Awards**

- Won Technology Award in 9<sup>th</sup> Invention to Innovation Summit 2024 held at University of the Punjab, Lahore on February 27-28, 2024
- Won Technology Award in 6<sup>th</sup> Invention to Innovation Summit 2017 held at University of the Punjab, Lahore on March 8-9, 2017
- Won Technology Award in 5<sup>th</sup> Invention to Innovation Summit 2016 held at University of the Punjab, Lahore on March 2-3, 2016

### **Fellowship Award:**

- HEC's Indigenous PhD Fellowship award

### **US Patent Issue Fee:**

- US\$ 680 by University of the Punjab, Lahore, Pakistan

### **US Patent Filing Fee:**

- US\$ 11, 000 by HEC, Islamabad, Pakistan

## **Research Projects:**

1. Harnessing the seasoning potential of *Saccharomyces cerevisiae*. **Rs. 0.25 Million** by University of the Punjab, Lahore (2024-2025)
2. Local synthesis of protein hydrolysates for cost effective growth medium. **Rs. 0.25 Million** by University of the Punjab, Lahore (2022-2023)
3. Recombinant production and process optimization of thermostable L-asparaginases for therapeutic and industrial applications (Ref. No. 11/CPEC-24/CRG/CARDU/2021). **Rs. 21.14 Million** by Higher Education Commission, Islamabad, Pakistan. **(Co-Principal Investigator)**

4. Optimization of simultaneous liquefaction and saccharification: a novel process developed by using newly discovered thermoacidophilic pullulanase (8527/Punjab/NRPU/R&D/HEC/2017). **Rs. 7.379 Million** by Higher Education Commission (HEC), Islamabad, Pakistan.
5. Process scale-up and optimization for synthesis of thermostable industrial enzymes (TDF02-069). **Rs. 14.0 Million** by Higher Education Commission (HEC), Islamabad, Pakistan.
6. Enzymatic Synthesis of High Protein Flour from Damaged Rice. **Rs. 0.15 Million** by University of the Punjab, Lahore (2017-2018).
7. Exploring valuables from waste food through enzymatic processing. **Rs. 0.15 Million** by University of the Punjab, Lahore (2015-2016).
8. Exploration of raw potato starch digesting properties of a newly characterized glycosyl hydrolases. **Rs. 0.15 Million** by University of the Punjab, Lahore (2014-2015).
9. Cloning and characterization of a thermostable starch de-branching enzyme. **Rs. 0.15 Million** by University of the Punjab, Lahore (2013-2014).
10. Efficient glucose syrup production by the action of locally produced thermostable amylase. **Rs. 0.15 Million** by University of the Punjab, Lahore (2012-2013).

## **Research output:**

### **Research Products Ready for Commercialization**

- Locally produced Yeast Extract for microbiological growth media
- Locally produced Tryptone for microbiological growth media
- Locally produced Thermostable Industrial Enzymes

### **Patents:**

#### **“PAKISTAN’S FIRST INTERNATIONAL PATENT IN THE FIELD OF INDUSTRIAL ENZYMES”**



US009340778B2

**Ahmad, N., Rashid, N., Haider, M. S. and Akhtar, M. (2013). Single Step Liquefaction and Saccharification of Corn Starch Using an Acidophilic, - Calcium Independent and Hyperthermophilic Pullulanase. (United States Patent No. US9340778 B2 granted on 17/05/2016)**

## Research Publications:

<b>Total No.</b>	<b>36</b>
<b>Cumulative Impact Factor:</b>	<b>68.342</b>
<b>Total Citations</b> (as retrieved from Google Scholar on 09-10-2024):	<b>228</b>

No.	Publication	Impact Factor	Citations
36	Sania, A., Muhammad, M.A., Sajed, M., <b>Ahmad N.</b> , Aslam M., Tang, X. F. and Rashid, N. (2024). Engineering Tk1656, a highly active L-asparaginase from <i>Thermococcus kodakarensis</i> , for enhanced activity and stability. Accepted on October 09, 2024. Article reference [BIOMAC_136442].	7.7	0
35	Mansoor, S., Firyal, S., Awan, A.R., Rashid, N., <b>Ahmad, N.</b> , Saeed, A., Hashmi, M.A., Wasim, M., Saeed, S. and Tayyab, M. (2024). Biological evaluation of locally characterized recombinant thermostable $\alpha$ -amylase in poultry birds. Journal of Xi'an Shiyou University, Natural Science Edition. 20(09):30-44	HEC "X" Category journal	0
34	Sania, A., Muhammad, M.A., Sajed, M., Azim, N., <b>Ahmad N.</b> , Aslam M., Tang, X. F. and Rashid, N. (2024), Structural and functional analyses of an L-asparaginase from <i>Geobacillus thermopakistaniensis</i> , International Journal of Biological Macromolecules <a href="https://doi.org/10.1016/j.ijbiomac.2024.130438">https://doi.org/10.1016/j.ijbiomac.2024.130438</a>	8.2	0
33	Aroob, I., Shaeer, A., <b>Ahmad, N.</b> , Aslam, M. and Rashid, N. (2023). Ethylenediaminetetraacetic acid enhances structural stability and thermotolerance of recombinant cyclomaltodextrinase from <i>Geobacillus thermopakistaniensis</i> at higher temperatures. Biologia. <a href="https://doi.org/10.1007/s11756-023-01542-z">https://doi.org/10.1007/s11756-023-01542-z</a>	1.5	1
32	Muhammad, M. A., <b>Ahmad, N.</b> , Akhter, M., & Rashid, N. (2023). Structural and functional analyses of Pcal_0917, an $\alpha$ -glucosidase from hyperthermophilic archaeon <i>Pyrobaculum calidifontis</i> . <i>International Journal of Biological Macromolecules</i> , 244 (2023) 125446. doi: <a href="https://doi.org/10.1016/j.ijbiomac.2023.125446">https://doi.org/10.1016/j.ijbiomac.2023.125446</a>	8.2	4
32	Mehboob, S., Ali, R., Bashir, S., <b>Ahmad, N.</b> , Ahmad, T., Butt, H. I., & Rashid, N. (2023). Molecular cloning and production of recombinant Pcal_0672, a family GH57 glycoside hydrolase from <i>Pyrobaculum calidifontis</i> . Biologia, 1-14. <a href="https://doi.org/10.1007/s11756-023-01338-1">https://doi.org/10.1007/s11756-023-01338-1</a>	1.653	3
31	Aroob, I., Maqbool, A., Pervez, A., <b>Ahmad, N.</b> , Aslam, M., Shaeer, A., and Rashid, N. (2023). Pcal_0976, a pullulanase homologue from <i>Pyrobaculum calidifontis</i> ,	1.653	1

	displays a glycoside hydrolase activity but no pullulanase activity. <i>Biologia</i> , 1-13. <a href="https://doi.org/10.1007/s11756-022-01309-y">https://doi.org/10.1007/s11756-022-01309-y</a>		
30	Sajed, M., Falak, S., Muhammad, M.A., <b>Ahmad, N.</b> and Rashid, N. (2022). A plant-type L-asparaginase from <i>Pyrobaculum calidifontis</i> undergoes temperature dependent autocleavage. <i>Biologia</i> , 77(12):3623-3631. <a href="https://doi.org/10.1007/s11756-022-01215-3">https://doi.org/10.1007/s11756-022-01215-3</a>	1.653	2
29	Sajed, M., <b>Ahmad, N.</b> and Rashid, N. (2022). Temperature dependent autocleavage and applications of recombinant L-asparaginase from <i>Thermococcus kodakarensis</i> for acrylamide mitigation. <i>3 Biotech</i> 12(129) <a href="https://doi.org/10.1007/s13205-022-03197-0">https://doi.org/10.1007/s13205-022-03197-0</a>	2.406	9
28	Asif, M., Shahid A.A. and <b>Ahmad, N.</b> 2022. <i>Ganoderma lucidum</i> as a biocontrol agent for management of <i>Alternaria solani</i> , a pathogen of early blight of tomato. <i>Sarhad Journal of Agriculture</i> , 38(2): 734-741. <a href="https://dx.doi.org/10.17582/journal.sja/2022/38.2.734.741">https://dx.doi.org/10.17582/journal.sja/2022/38.2.734.741</a>	HEC “Y” Category journal	3
27	Aroob, I., Javed, M., <b>Ahmad, N.</b> , Aslam, M. and Rashid N. (2022) Investigating the role of carbohydrate-binding module 34 in cyclomaltoextrinase from <i>Geobacillus thermopakistanensis</i> : structural and functional analyses. <i>3 Biotech</i> 12(25):1-12. <a href="https://doi.org/10.1007/s13205-021-03089-9">https://doi.org/10.1007/s13205-021-03089-9</a> . Epub 2021 Dec 23.	2.406	2
26	Asif, M., Shahid, A.A., <b>Ahmad, N.</b> and S. Ali. (2021). Ganodermin, as a biopesticide from <i>Ganoderma lucidum</i> to reduce incidence of early blight of tomato. <i>Pak. J. Agri. Sci.</i> 58:1537-1545.	0.748	0
25	Aroob, I., <b>Ahmad, N.</b> and Rashid, N. (2021). Cyclodextrin-preferring glycoside hydrolases: properties and applications. <i>Amylase</i> 2021; 5:23-37. <a href="https://doi.org/10.1515/amylase-2021-0003">https://doi.org/10.1515/amylase-2021-0003</a>	An international, peer- reviewed journal	7
24	Toor, K. J., <b>Ahmad, N.</b> , Muhammad, M. A. and Rashid, N. (2020). TK-PUL, a pullulan hydrolase type III from <i>Thermococcus kodakarensis</i> : a potential candidate for simultaneous liquefaction and saccharification of starch. <i>Amylase</i> 4(1):45-55. <a href="https://doi.org/10.1515/amylase-2020-0004">https://doi.org/10.1515/amylase-2020-0004</a>	An international, peer- reviewed journal	8

23	Naeem, S., <b>Ahmad, N.</b> and Rashid, N. (2020). Pcal_0842, a highly thermostable glycosidase from <i>Pyrobaculum calidifontis</i> displays both $\alpha$ -1,4- and $\beta$ -1,4-glycosidic cleavage activities. <i>International Journal of Biological Macromolecules</i> , 165(15):1745-1754. <a href="https://doi.org/10.1016/j.ijbiomac.2020.10.012">https://doi.org/10.1016/j.ijbiomac.2020.10.012</a>	5.162	7
22	Mehboob, S., <b>Ahmad, N.</b> , Munir, S., Ali, R., Younas, H. and Rashid, N. (2020). Gene cloning, expression enhancement in <i>Escherichia coli</i> and biochemical characterization of a highly thermostable amyloamylase from <i>Pyrobaculum calidifontis</i> . <i>International Journal of Biological Macromolecules</i> , 165(15):645-653. <a href="https://doi.org/10.1016/j.ijbiomac.2020.09.071">https://doi.org/10.1016/j.ijbiomac.2020.09.071</a>	5.162	13
21	Aroob, I., <b>Ahmad, N.</b> , Aslam, M., Shaeer, A. and Rashid, N. (2019). A highly active $\alpha$ -cyclodextrin preferring cyclomaltodextrinase from <i>Geobacillus thermopakistanensis</i> . <i>Carbohydrate Research</i> , 481(15):1-8. <a href="https://doi.org/10.1016/j.carres.2019.06.004">https://doi.org/10.1016/j.carres.2019.06.004</a> .	2.074	11
20	Afzaal, S., Hameed, U., <b>Ahmad, N.</b> , Udekwu, K., Pastuszek, P. and Haider, M. S. (2019). Effect of Pasteurization treatments on <i>Leuconostoc mesenteroides</i> strains isolated from the Pakistani Foods. <i>Pakistan Journal of Agricultural Research</i> , 32(4): 625-628. <a href="http://dx.doi.org/10.17582/journal.pjar/2019/32.4.625.628">http://dx.doi.org/10.17582/journal.pjar/2019/32.4.625.628</a> .	HEC "Y" Category journal	1
19	Afzaal, S., Hameed, U., <b>Ahmad, N.</b> , Rashid, N. and Haider, M. S. (2019). Molecular Identification and Characterization of Lactic Acid producing Bacterial Strains Isolated from Raw and Traditionally Processed Foods of Punjab, Pakistan. <i>Pakistan Journal of Zoology</i> , 51(3):1145-1153. Doi: 10.17582/journal.pjz/2019.51.3.1145.1153.	0.547	5
18	Anjum, S., <b>Ahmad, N.</b> , Hussain, Z., Haider, M. S. and Rashid, N. (2018). Valorization of waste foods using pullulan hydrolase from <i>Thermococcus kodakarensis</i> . <i>Amylase 2018</i> , 2:39-43. <a href="https://doi.org/10.1515/amylase-2018-0005">https://doi.org/10.1515/amylase-2018-0005</a>	An international, peer-reviewed journal	3

17	Guo, J., Coker, A.R., Wood, S.P., Cooper, J.B., Keegan, R.M., <b>Ahmad, N.</b> , Muhammad, M.A., Rashid, N. and Akhtar, M. (2018). Structure and function of the type III pullulan hydrolase from <i>Thermococcus kodakarensis</i> . <i>Acta Crystallographica Section D: Structural Biology</i> , 74(4): 305-314. <a href="https://doi.org/10.1107/S2059798318001754">https://doi.org/10.1107/S2059798318001754</a>	3.099	20
16	Muhammad, M. A., Falak, S., Rashid, N., <b>Ahmad, N.</b> , Gardner, Q. T. A. A., Tariq, A., and Akhtar, M. (2017). Complete signal peptide of Tk1884, an $\alpha$ -amylase from <i>Thermococcus kodakarensis</i> , is not necessary for extracellular secretion of the enzyme by <i>Escherichia coli</i> Amylase 1: 75–81. <a href="https://doi.org/10.1515/amylase-2017-0007">https://doi.org/10.1515/amylase-2017-0007</a>	An international, peer-reviewed journal	2
15	Muhammad, M. A., Falak, S., Rashid, N., Gardner, Q. T. A. A., <b>Ahmad, N.</b> , Imanaka, T., and Akhtar, M. (2017). " <i>Escherichia coli</i> signal peptidase recognizes and cleaves archaeal signal sequence. <i>Biochemistry (Moscow)</i> . 82(7):821-825 Papers in Press. Published on May 8, 2017 as Manuscript BM17-112. doi: 10.1134/S0006297917070070.	1.537	4
14	Mehboob, S., <b>Ahmad, N.</b> , Rashid, N., Imanaka, T. and Akhtar, M. (2016). Pcal_0768, a highly active 4-alpha-glucanotransferase from <i>Pyrobaculum calidifontis</i> . <i>Extremophiles</i> , 20(4):559–566. DOI 10.1007/s00792-016-0850-x.	2.346	9
13	Azam, M., Shahid, A. A., Majeed, R. A., Ali, M., <b>Ahmad, N.</b> and Haider, M. S. (2016). First Report of <i>Penicillium biourgeianum</i> causing Post-Harvest Fruit Rot of Apple in Pakistan. <i>Plant Disease</i> , Posted online on 9 Mar 2016, First Look.	3.02	2
12	<b>Ahmad, N.</b> , Mehboob, S. and Rashid, N. (2015). Starch-processing enzymes—emphasis on thermostable 4- $\alpha$ -glucanotransferases. <i>Biologia</i> , 70(6): 709-725.	0.827	18
11	Naz, S., Javid, A., <b>Ahmad, N.</b> , and Shoaib, A. (2014). Antibacterial activity of essential oils of <i>Trachyspermum ammi</i> (L.) sprague and <i>Ocimum basilicum</i> L. against <i>acidovorax</i> sp. <i>Intl. J. of Biol. and Biotechnol.</i> , 11(4): 671-675.	HEC's Z category Journal	4



10	<b>Ahmad N.</b> , Rashid N., Haider, M. S., Akram M., and Akhtar, M. (2013). Novel maltotriose hydrolyzing thermo-acidophilic pullulan hydrolase type III from <i>Thermococcus kodakaraensis</i> . <i>Appl. Environ. Microbiol.</i> , <b>80(3)</b> :1108-1115. doi:10.1128/AEM.03139-13.	<b>3.678</b>	<b>48</b>
9	Malik B., Rashid N., <b>Ahmad N.</b> , and Akhtar M. (2013). <i>Escherichia coli</i> Signal Peptidase Recognizes and Cleaves the Signal Sequence of $\alpha$ -Amylase Originating from <i>Bacillus licheniformis</i> . <i>Biochemistry (Moscow)</i> , <b>78(8)</b> :958-962.	<b>1.149</b>	<b>11</b>
4-8	<b>Ahmad, N.</b> , Rashid, N., Haider, M. S. and Akhtar, M. (2016). Single Step Liquefaction and Saccharification of Corn Starch Using an Acidophilic, Calcium Independent and Hyperthermophilic Pullulanase. ( <b>United States Patent No. US9340778 B2 granted on 17/05/2016</b> ).  * One International (Technology related) Patent granted from technologically advanced countries is equivalent up to 5 publications in Impact Factor Journals (Ref: DG/QA/HEC/Policy-Dec/2008/ i140; Dated: November 04, 2008).	<b>Equivalent to Five publications having Impact Factor</b>	<b>4</b>
3	Jalal, A., <u>Rashid, N.</u> , <b>Ahmad, N.</b> , Iftikhar, S. and Akhtar, M. (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> <b>76(3)</b> :347-349.	<b>1.402</b>	<b>13</b>
2	Rashid, N., <b>Ahmad, N.</b> , Haider, M. S. and Haque, I. (2010). Effective solubilization and single-step purification of <i>Bacillus licheniformis</i> $\alpha$ -Amylase from insoluble aggregates. <i>Folia Microbiol.</i> <b>55(2)</b> :133–136.	<b>0.997</b>	<b>8</b>
1	Ur-Rehman, S., Piggott, J. R., Ahmad, M. M., Hussain, S., <b>Ahmad, N.</b> and Owusu-Darko, P. (2008). Preparation and evaluation of pizza cheese made from blend of vetch-bovine milk. <i>Int. J. Food Sci. Technol.</i> <b>43(5)</b> :770-778.	<b>1.223</b>	<b>5</b>

### Abstracts published

**Ahmad, N.**, Rashid, N. and Haider, M. S. (2014). Enzymatic synthesis of prebiotics: regulatory issues. *Abstract book of International Conference on "Recent Developments In Human Nutrition (ICHN-2014)"*, 19-20 March, 2014 at Pearl Continental Hotel Lahore.

**Ahmad, N.,** Rashid, N., Haider, M. S. and Akhatar, M. (2013). Efficient synthesis of prebiotics using an extremophilic glycosyl hydrolase. *Abstract book of 3rd International Conference on “Functional Foods & Nutraceuticals (NUTRICON-2013)”*, 4-5 Dec, 2013, GC University, Faisalabad, Pakistan.

Mehboob S., **Ahmad, N.** and Naeem Rashid. (2013). Highly thermostable 4- $\alpha$ -glucanotransferase from hyperthermophilic archaeon *Pyrobaculum calidifontis* VA1: recombinant production and characterization. *Abstract book of 11<sup>th</sup> Biennial Conference of Pakistan Society for Biochemistry and Molecular Biology “Molecular Biosciences: Challenges and Opportunities”*, November 25-28, 2013, University of the Punjab, Lahore, Pakistan.

**Ahmad, N.,** Rashid, N., Haider, M. S. and Akhatar, M. (2013). A flash on novel cyclodextrinase activity possessed by pullulanase from *Thermococcus kodakarensis*. *Abstract book of 11<sup>th</sup> Biennial Conference of Pakistan Society for Biochemistry and Molecular Biology “Molecular Biosciences: Challenges and Opportunities”*, November 25-28, 2013, University of the Punjab, Lahore, Pakistan.

**Ahmad, N.,** Rashid, N., Haider, M. S. and Akhatar, M. (2013). Friendly maltooligosaccharides by the virtue of an extremist. *Abstract book of International Conference on Emerging Issues in Nutrition & Food safety*, October 21-23, 2013, National Institute of Food Science & Technology University of Agriculture, Faisalabad, Pakistan.

**Ahmad, N.,** Rashid, N. and Haider, M. S. (2012). Thermozyms: future’s choice of food industry. *Abstract book of 1<sup>st</sup> International Conference on “Future Perspectives of Food Processing Industries in Pakistan*, 11-12 December, 2012, GC University, Faisalabad, Pakistan.

Haider, M. S., **Ahmad, N.,** Rashid, N. (2012). Production of glucose syrup by the action of recombinant  $\alpha$ -amylase purified by an efficient method. *Abstract book of International Food Agricultural and Gastronomy Congress* 15-19 February, 2012, Antalya, Turkey.

## **Research supervised**

### **PhD Theses**

**Total No. : 04**

1. Muhammad Asif (2023). Antifungal Protein (s) from *Ganoderma lucidum* for the Management of Early Blight of Tomato. Ph.D. Thesis.
2. Sohaib Afzaal (2022). Screening and Characterization of Potential Probiotic Strain (s) from Indigenous Foods Ph.D. Thesis.
3. Majida Atta Muhammad (2021). Production of recombinant starch hydrolyzing enzymes of hyperthermophilic origin and their industrial applications. Ph.D. Thesis.
4. Iqra Aroob (2021). Synthesis Characterization and Applications of recombinant Cyclomaltodextrinase from *Geobacillus thermopakistanensis*. Ph.D. Thesis.

5. Sumera Mehboob (2015). Glycosyl Hydrolases from Hyperthermophilic Archaeon *Pyrobaculum calidifontis*: Cloning and Characterization. PhD Thesis. (**supervised as a co-worker**)

**M.Phil. Theses**

**Total No. : 41**

1. Misbah Khan (2024). Characterization of Indigenously Prepared Yeast Extract for Biotechnological Applications. M.Phil. Thesis.
2. Azhar Abbas (2024). Gene cloning and heterologous expression of an enolase from *Pyrobaculum calidifontis*. Phil. Thesis.
3. Muhammad Suleman (2023). Local synthesis of cost-effective nitrogen source (s) for microbial growth and production of recombinant enzymes. M.Phil. Thesis.
4. Amna Ilyas (2022). Cost effective production of thermostable recombinant amylase for starch processing. M.Phil. Thesis.
5. Nimra Abbas (2022). Economical production of recombinant pullulanase from *Thermococcus kodakarensis* and its application studies. M.Phil. Thesis.
6. Aqsa Rahat (2021). Optimization and economic production of a thermostable recombinant amylase. M.Phil. Thesis.
7. Sania Rafaqat (2020). Optimizations for low-cost enzyme production. M.Phil. Thesis.
8. Adnan Ali (2020). Dietary habits of school going children in shalimar town, Lahore. M.Phil. Thesis.
9. Khurram Jahangir Toor (2019). Optimization of conditions for simultaneous liquefaction and saccharification of corn starch. M.Phil. Thesis.
10. Zoufishan Latif (2019). Optimization of enzymatic hydrolysis of food waste. M.Phil. Thesis.
11. Aimen Zafar (2019). Utilization of undersized potatoes in the synthesis of sugar syrups. M.Phil. Thesis.
12. Iqra Ghulam Rasool (2019). Evaluation of locally produced amylase(s) as detergent additives. M.Phil. Thesis.
13. Farwa Ghafor (2019). Potential application of locally produced amylase(s) in textile de-sizing. M.Phil. Thesis.
14. Asif Khalil (2018). Validation of molecular methods for identification of Halal meat animals. M.Phil. Thesis.
15. Zumar Ashraf (2018). Effect of blanching on amylolysis of whole potato. M.Phil. Thesis.
16. Hafiza Farhat Aziz (2018). Enzymatic synthesis of sweeteners from potato flour. M.Phil. Thesis.

17. Asif Khalil (2018). Validation of molecular methods for identification of Halal meat animals. M.Phil. Thesis.
18. Muhammad Adnan Ali (2018). Dietary habits of school going children in Shalimar town, Lahore. M.Phil. Thesis.
19. Aqsa Akhtar (2018). Utilization of rice milling wastes through amylolysis. M.Phil. Thesis.
20. Rida Mukhtar (2018). Assessment of meat hygiene status and molecular identification of *Escherichia coli* in meat in Lahore. M.Phil. Thesis.
21. Faiza Fatima (2018). Synthesis of maltose syrup from whole oat grain powder. M.Phil. Thesis.
22. Iqra Ayub (2018). Effect of particle size on enzymatic hydrolysis of rice powder. M.Phil. Thesis.
23. Ayesha Nisar (2017). Isolation and characterization of *Salmonella* from raw, cooked and ready to eat meat products. M.Phil. Thesis.
24. Javeria Mushtaq (2017). Use of lipase and xylanase in wafers. M.Phil. Thesis.
25. Qurat-ul-Ain Bukhari (2017). Isolation and characterization of *Escherichia coli* from raw, cooked and ready to eat meat products. M.Phil. Thesis.
26. Hamza Tahir Chudry (2017). Extraction and enzymatic processing of barley and oat starch. M.Phil. Thesis.
27. Tehreem Saba (2017). Use of amylase and xylanase in wafers. M.Phil. Thesis.
28. Afshan Riaz (2017). Studies on the preparation and evaluation of glazed *Aloe vera*. M.Phil. Thesis.
29. Tehreem Fatima (2017). Amylolysis of wheat and corn. M.Phil. Thesis.
30. Hafiza Bushra Tariq (2017). Studies on the development of innovative shortening for wafers. M.Phil. Thesis.
31. Arbab Tahir (2017). Effect of pomegranate: *Aloe vera* juice blend on hypertensive and diabetic patients. M.Phil. Thesis.
32. Muhammad Sohaib Sarwar (2017). Rice syrup production through conventional and modern enzymatic processing. M.Phil. Thesis.
33. Mariam Khan (2017). Studies on the fate of aloin and bioactive components during processing of *Aloe vera* juice . M.Phil. Thesis.
34. Shafaqat Hussain (2016). Studies on the utilization of low grade potatoes. M.Phil. Thesis.
35. Muhammad Shakeel (2016). Effect of packaging material and storage conditions on bioactive components of therapeutic beverage. M.Phil. Thesis.

36. Atif Pervaiz (2016). Effect of processing and storage conditions on phenolic components of onion (*Allium cepa* L.). M.Phil. Thesis.
37. Rabeel Asghar (2016). Isolation and molecular characterization of meat borne pathogens. M.Phil. Thesis.
38. Anjum Shehzad (2016). Biotechnological production of lactic acid from food waste. M.Phil. Thesis.
39. Hasnain Farooq (2016). Characterization and Nutrition Profiling of Potato Peel Blended Composite Wheat flour Cookies. M.Phil. Thesis.
40. Muhammad Arfeen (2016). Characterization and Nutrition Profiling of Mango Peel Blended Composite Wheat flour Cookies. M.Phil. Thesis.
41. Muhammad Naeem-ur Rehman Zafar (2015). Utilization of enzyme(s) for quality enhancement of white bread. M. Phil. Thesis.

### **Conferences/Seminars/Workshops**

Organized National Workshop on *Production & Purification of Recombinant Proteins* (November 13-17, 2023) at School of Biological Sciences, University of the Punjab, Lahore-Pakistan

Completed the two-days Training on “*Intellectual Property Rights and Patent Filing*” Organized by Punjab Higher Education Commission on February 01-02, 2024

Participated in Seminar organized by ORIC on “*Intellectual Property & Patent Essentials: Basic and Legal Aspects*” held on August 28, 2023

Completed Capacity Development Training Program on “*Intellectual Property & Patent Filing*” for Public Sector Universities organized by Punjab Higher Education Commission February 22, 2023 at Arfa Software Technology Park, 346-B, Ferozpur Road, Lahore.

Participated in Faculty-Wise Training Workshop on “*How to Prepare Self-Assessment Report (SAR)*” for QEC Focal Persons of University of the Punjab, Lahore Organized by Quality Enhancement Cell (QEC), University of The Punjab, Lahore on February 2, 2022

Organized *International Conference on Advances in Biological Sciences* (ICABS-23) March 6-8, 2023 at School of Biological Sciences, University of the Punjab, Lahore-Pakistan

Participated in the training seminar on “*How to improve/implement HEC-QAA parameters*” Organized by Quality Enhancement Cell (QEC), University Of The Punjab, Lahore on 3rd March, 2022

Completed Online Certificate Course entitled, “*Intellectual Property for Scientists*”, Organized by COMSTECH Secretariat, Islamabad, in Collaboration with International Center for Chemical and Biological Sciences (ICCBS),

Karachi, and Sindh Innovation, Research, and Education Network (SIREN), Karachi, on September 9, 2020.

Oral presentation titled “*Enzymatic reprocessing of food wastes for extraction of valuables*” at the International Conference on “Recent Innovations in Molecular Sciences” on November 6-8, 2019 at University of the Punjab, Lahore.

Participated in one day workshop on “*How to prepare University Budget*” on March 20, 2019 at Department of Economics, University of the Punjab, Lahore.

Participated in “*8th Invention to Innovation Summit 2019*” on April 2nd-3rd, 2019 in National Center of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore

Organized International Seminar on, “*Food Integrity: Modern concept of Food Quality, Safety, Authenticity and Defence*”, held at University of the Punjab, Lahore, on December 6, 2016.

Organized International Conference on, “*Significance of Potash Use in Pakistani Agriculture*” held at Institute of Agricultural Sciences, University of the Punjab, Lahore, on November 24-25, 2016.

Organized One day Seminar/cooking competition, “*Food Buzz, 2016*”, held at Institute of Agricultural Sciences, University of the Punjab, Lahore, on April 15, 2016.

Organized One day Seminar on, “*Halal Foods, 2016*”, held at Institute of Agricultural Sciences, University of the Punjab, Lahore, on September 24, 2016.

Organized One day Seminar/awareness walk, “*Food Day, 2016*”, held at Institute of Agricultural Sciences, University of the Punjab, Lahore, on November 2, 2016.

Organized “*Annual Sports Gala 2016*”, held at Institute of Agricultural Sciences, University of the Punjab, Lahore.

Participated in Workshop on *Total Quality Management* held at Institute of Agricultural Sciences, University of the Punjab, Lahore, on January 23, 2016.

Participated in Training session on, “*Management Competencies Development*”, held at Institute of Agricultural Sciences, University of the Punjab, Lahore on December 15, 2016.

Participated in One day Seminar on “*FOOD SAFETY: OUR NATIONAL RESPONSIBILITY*” held at Institute of Agricultural Sciences, University of the Punjab, Lahore, on November 22, 2016

Organized “*5th International/10th National Conference of Pakistan Phytopathological Society on Crop Protection for Sustainable Agriculture*”. November 23-25, 2015 IAGS, University of the Punjab, Lahore.

Participation in the “*International workshop on X-ray Crystallography in Structural Biology*” on November 12-14, 2015 at National Institute of Biotechnology and Genetic Engineering, Faisalabad.

Participated in “*International Human Nutrition Conference & Expo–2015*” on 3-4 November 2015 in Pearl Continental Hotel, Lahore

Participated in “*one day training workshop on Halal Foods*” on September 01, 2015

Participated in “*The Silver Jubilee Celebrations, 25th All Pakistan Food Science Conference And Food Expo*” on March 16-17 2015 at PCSIR Laboratories Complex, Ferozpur Road, Lahore

Participated in “*Bio-safety Training Workshop for Young Scientists*”. 18th January 2013, Forman Christian College (A Chartered University), Lahore.

Participated in “*International Workshop on Advances in Food Analytical Methods: Oil/Fat and Phenolics*”. December 4-6, 2013, COMSTECH, Islamabad, Pakistan.

Organized “*National Seminar on Developing Local Food Additives/Preservatives*”. November 22, 2012, University of the Punjab, Lahore.

Participated in workshop on “*Research Ethics, EndNote and Turnitin*”. October 2-3, 2012, Department of Library and Information Science, University of the Punjab, Lahore.

Participated in “*International Workshop on Bioinformatics: Database Mining and High Throughput Genomic Analyses*”. March 19-21, 2012, COMSTECH, Islamabad, Pakistan.

Participated in “*International symposium on Glycoprotein in human and diseases*”. May 27-29, 2008, School of Biological Sciences, University of the Punjab, Lahore, Pakistan.

Participated in “*International symposium on Nano chemistry*”. September 20-21, 2006, School of Biological Sciences, University of the Punjab, Lahore, Pakistan.

Participated in “*18th FAOBMB Symposium Genomics and Proteomics in Health and agriculture*”. November 20-23, 2005, Aiwan-e-Iqbal, Lahore, Pakistan.

## **Oral presentations**

### **As invited speaker**

Delivered lecture as an invited speaker on "From Waste to Value: Utilization Of Milk By-Products For Synthesis of Thermostable Recombinant Enzyme" *International Conference on Health Security (ICHS) 2023* on March 14 - 15, 2023 at University of Veterinary and Animal Sciences, Lahore, Pakistan.

Delivered lecture as an invited speaker on "TK-PUL, A Versatile Pullulanase from *Thermococcus kodakarensis* for Valorization of Food Wastes" in *1st National Conference on Emerging Trends in Food Science and Nutrition (N-ETFN)* on March, 28-29, 2022 at University of Management and Technology (UMT), Lahore, Pakistan.

Presented at resource person on the topic “Characterization of Proteins” at National Training Workshop on “Recombinant DNA Technology for the Production of Biological Products” on October 30-31, 2019 at Institute of Biochemistry & Biotechnology (IBB), University of Veterinary and Animal Sciences, Lahore

**Ahmad, N.,** Rashid, N. and Haider, M. S. (2015). Application studies of locally synthesized recombinant amylase. “*International Human Nutrition Conference & Expo–2015*” on 3-4 November 2015 in Pearl Continental Hotel, Lahore.

### **Other presentations**

**Ahmad, N.,** Rashid, N. and Haider, M. S. (2014). Enzymatic synthesis of prebiotics: regulatory issues. *International Conference on “Recent Developments In Human Nutrition (ICHN-2014)”*, 19-20 March, 2014 at Pearl Continental Hotel Lahore.

**Ahmad, N.,** Rashid, N., Haider, M. S. and Akhtar, M. (2013). A flash on novel cyclodextrinase activity possessed by pullulanase from *Thermococcus kodakarensis*. *11<sup>th</sup> Biennial Conference of Pakistan Society for Biochemistry and Molecular Biology “Molecular Biosciences: Challenges and Opportunities,”* November 25-28, 2013 University of the Punjab, Lahore, Pakistan

**Ahmed, N.,** Rashid, N. and Haider, M. S. (2012). Locally Produced Recombinant Enzymes for Food Processing: as Good as Native Ones. *National Seminar on Developing Local Food Additives/Preservatives, November 22, 2012 University of the Punjab , Lahore.*

Haider, M. S., **Ahmed, N.,** Rashid, N. (2012). Production of glucose syrup by the action of recombinant  $\alpha$ -amylase purified by an efficient method. *International Food Agricultural and Gastronomy Congress 15-19 February, 2012 Antalya, Turkey.*

### **Advisory / Administrative Services Rendered**

Currently serving as;

- Member Scientific Panel of Punjab Food Authority, Lahore
- Member of Technical Committee at SBS
- Member of Departmental Tenure Review Committee (DTRC) at SBS
- Member of Doctoral Program Committee (DPC) at SBS

### **Previous services**

- Displayed stall for showcasing research done at SBS and for providing consultancy at 9th Invention to Innovation Summit 2024 held on February 27-28, 2024.
- Served as member of Technical Committee at Punjab Food Authority for finalization of specifications and Technical Evaluation of equipment/chemicals/kits/reagents to be procured for Food Laboratories and Medical screening facilities of Technical Wing of Punjab Food Authority



- Served as member School Graduate Committee at School of Food and Agricultural Sciences, University of Management and Technology
- Served as convener of Energy Conservation Committee at SBS
- Served as member of Steering Committee of ORIC University of the Punjab
- Served as member of SBS Curriculum Review Committee for year 2020
- Served as focal person of SBS for external linkages
- Served as member of Technical Committee at Punjab Food Authority to review compositional standards with regard to meat%, protein% and fat contents and microbial standards of poultry products mentioned in Punjab Pure Food Regulations 2018
- Served as Focal Person/member of Quality Enhancement Cell's (QEC) team for devising Self-Assessment Report (SAR) of SBS and subsequent audit of the same
- Focal person of Youth Entrepreneurial Society (YES) at School of Biological Sciences, University of the Punjab, Lahore.
- Served as member of Technical Committee for configuration and finalization of required equipments during the upgradation/expansion of Food Laboratories of the Punjab Food Authority

### **Professional Memberships**

- Member Pakistan Society of Food Scientists and Technologists
- Member American Society for Microbiology
- Member Pakistan Society for Microbiology
- Member Nutritionists Association of Pakistan
- Member Society of Chemical Industry (London and New York)