

DR. MEHWISH ASLAM

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ACADEMIC CAREER

Ph.D.	Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University, Kyoto, Japan
M.Phil.	University of Agriculture, Faisalabad, Pakistan
M.Sc.	University of Sargodha, Sargodha, Pakistan
B.Sc.	University of Sargodha, Sargodha, Pakistan

WORK/RESEARCH EXPERIENCE

Assistant Professor (Current Position)

School of Biological Sciences, University of the Punjab, Lahore

Teacher/Research Assistantship

Kyoto University, Kyoto, Japan

Research Student (Atomi Lab), Department of Synthetic Chemistry and Biological Chemistry Graduate School of Engineering, Kyoto University, Kyoto, Japan

- Draft whole genome Sequencing of *Thermococcus chitonophagus*
- Data deposition of the gene sequences of *T. chitonophagus* *chiA*, *chiC* and *chiD* in DDBJ/EMBL/GenBank databases under the accession no. LC134313, LC134314 and LC121823.

RESEARCH PROJECT

1. Production and characterization of a recombinant DNA ligase in *E. coli* from *Pyrobaculum caldifontis*, 2018-19 (HEC-SRGP, 0.5 Million)

SELECTED RESEARCH PUBLICATIONS

1. Nisar A Shakir, Tahira Bibi, **Mehwish Aslam**, Naeem Rashid (**2019**), Biochemical characterization of a highly active ADP-dependent phosphofructokinase from *Thermococcus kodakarensis*, Journal of Bioscience and Bioengineering, S1389-1723(19)30447-5, Doi: 10.1016/j.jbiosc.2019.06.014
2. Abeera Shaeer, **Mehwish Aslam**, Naeem Rashid (**2019**), A highly stable manganese catalase from *Geobacillus thermopakistanensis*: molecular cloning and characterization, Extremophiles, 1-12 <https://doi.org/10.1007/s00792-019-01124-5>
3. Iqra Aroob, Nasir Ahmad, **Mehwish Aslam**, Abeera Shaeer, Naeem Rashid, (**2019**) A highly active alpha-cyclodextrin preferring cyclo-maltodextrinase from *Geobacillus thermopakistanensis*, Carbohydrate Research, doi.org/10.1016/j.carres.2019.06.004
4. Naeem Rashid, **Mehwish Aslam** (**2019**) An overview of 25 years of research on *Thermococcus kodakarensis*, a genetically versatile model organism for archaeal research, Folia Microbiologica, 1-12, doi: 10.1007/s12223-019-00730-2
5. Nishitani Y, Horiuchi A., **Mehwish Aslam**, Kanai T., Atomi H and Miki K (**2018**) Structure analyses of a novel archaeal chitinase reveal the reaction mechanism and the importance of the C-terminal region for chitin-chain binding. Glycobiology, cwy024, <https://doi.org/10.1093/glycob/cwy024>.
6. **Mehwish Aslam**, Takahashi N., Matsubara K., Siebers B., Imanaka T., Kanai T and Atomi H. (**2017**) Identification of the glucosamine kinase in the chitinolytic pathway

- of *Thermococcus kodakarensis*. Journal of Bioscience and Bioengineering
<https://doi.org/10.1016/j.jbiosc.2017.10.005>
7. **Mehwish Aslam**, Horiuchi A., Simons J., Jha S., Odani T., Fujimoto R., Yamamoto Y., Gunji R., Imanaka T., Kanai T., Atomi H. (2017) Engineering of a hyperthermophilic archaeon, *Thermococcus kodakarensis*, that displays chitin-dependent hydrogen production Appl. Environ. Microbiol. 10.1128/AEM.00280-17
 8. Horiuchi A, **Aslam M**, Kanai T, Atomi H. (2016) A structurally novel chitinase from the chitin-degrading hyperthermophilic archaeon *Thermococcus chitonophagus*. Appl. Environ. Microbiol. doi:10.1128/AEM.00319-16
 9. **Mehwish Aslam**, M Shahid, FU Rehman, MA Murtaza, S Sharif, A Ata, S Noor (2012) Production optimization and characterization of a low molecular weight bacteriocin from *Lactococcus lactis* subsp. Lactis A J Microbiol Res 6(30):5924-5933
 10. **Mehwish Aslam**, M Shahid, FU Rehman, NH Naveed, AI Batool, S Sharif, A Asia (2011) Purification and characterization of bacteriocin isolated from *Streptococcus thermophiles*. A. J. Microbiol. Res. 5(18):2642-2648

SCIENTIFIC WORKSHOPS AND CONFERENCES ATTENDED

- 1 Attended the 5th international workshop on deep sea microbiology, September 10 - 11, 2016, Kyoto University, Japan (**Member of organizing team**)
- 2 11th International Congress on Extremophiles (12th Sep 2016-16th Sep 2016), Kyoto University, Japan - **Poster Presentation**
- 3 Development of a chitin assimilating strain of the hyperthermophilic archaeon, *T. kodakarensis* **Oral Presentation** at "The 96th CSJ Annual Meeting" March 24-27, 2016, Kyotanabe Campus, Doshisha University, Kyoto, Japan
- 4 Studies on chitin degradation and assimilation systems in hyperthermophilic archaea (2016) **Oral Presentation** at 7th Advanced biological chemistry seminar (ABC seminar), January, 14 2016, University of Kyoto, Kyoto.
- 5 Attended JGP Student **Exchange Workshop** 2016, Kyoto Univ./MIT, USA, Jun 11,
- 6 Attended 2nd One Day **Workshop** on Young Researchers Skill Development, Punjab University, Lahore (2012)
- 7 Attended The 4th and 5th Virtual **Training Workshop** on Bioinformatics <http://gibk21.bio.kyutech.ac.jp/abren2010/abren/> (2010, 2011-12)
- 8 **Workshop** on Mushroom Production & applications (2011), Institute of Horticulture, University of Agriculture, Faisalabad
- 9 **Workshop** on analytical Laboratory Management (2010), Attended the Workshop conducted by Department of Biochemistry. And Mol. Bio. University of Gujrat, Gujrat
- 10 **Workshop** on Excel English, Excel Math, urdu (2010)
 Attended the Workshop conducted by Oxford University Press at university of Agriculture, Faisalabad.
- 11 **Workshop** on Leadership and Communication Skill Development (2009)
 Attended the Workshop conducted by university of Agriculture, Faisalabad.
- 12 **Workshop** on chemical and Pharmaceuticals for development (2007) Attended the Workshop conducted by Department of Chemistry, university of Sargodha, Sargodha.
- 13 Food Sci. and Tech. Conference (2010), **Conference** attended at University of Agriculture, Faisalabad

Distinction, Awards & Certificates

1. MEXT Scholarship Award for PhD (2013-2017)

Skills Profile

Language and Computer Skills

I have got good communication skills from giving oral and poster presentations, in college/University, in lab meetings and conferences.

- **Japanese Language**
Japanese Intensive Language course, International Education and Student Mobility Division, Youshida Campus, Kyoto University, Kyoto
I am well familiar with basics of Japanese culture and society
- **English Language**
I am fluent in reading, writing and speaking English
- **Urdu Language**
Native Speaker, I am fluent in reading, writing and speaking Urdu
- **Microsoft Window/ Microsoft Office**
Basics of Microsoft office including MS word, MS PowerPoint and MS Excel
- **Bioinformatics**
Basic knowledge of bioinformatics tools

Laboratory Skills

- **Biochemical/Genetic Engineering**
Genetic recombination, gene knockout, pop-in/pop-out techniques along with development of adaptive engineering of hyperthermophilic strains
DNA sequencing, GC-MS, Akta Chromatography, TLC, site directed mutagenesis, microbe handling in anaerobic environment, molecular hydrogen estimation and development of enzyme assays
- **Biochemistry and Molecular Biology Techniques**
DNA, Protein isolation techniques, SDS-PAGE, chromatographic purification and characterization techniques.
- **Microbiology Techniques**
Antimicrobial, antifungal and antioxidant activity assays and can well work with micro-well plate reader, PCR and related instruments.

REFERENCES:

Prof. Haruyuki Atomi

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