

SHAHID MANZOOR



Personal details

Shahid Manzoor, PhD
Chairman/Associate Professor,
Dept. of Data Science,
University of the Punjab, Pakistan

Mail: chairman.dds@pu.edu.pk,
shahid.manzoor@pucit.edu.pk
Office: +90 55 9 20 13 67,
Mobile: +92 334 99 39 109,
Web: <http://faculty.shahid-manzoor.pu.edu.pk>

Employment History

❖ **Associate Professor at the University of the Punjab, Lahore**

August 2020 – Present

I have been working as an Chairman /Associate Professor at the Department of Data Science, University of the Punjab, Lahore, Pakistan.

❖ **Assistant Professor at the University of the Punjab, Lahore**

February 2014 – Present

I have been working as an Assistant Professor at the Department of Information Technology, University of the Punjab Gujranwala Campus for teaching graduate and master level classes and work with different research projects, worked as a guest researcher at Nebraska University, Omaha, USA.

❖ **Postdoc Researcher at the Swedish University of Agricultural Sciences, Uppsala**

March 2015 – May 2018

I have worked as a Guest researcher/Postdoc researcher at the Department of Molecular Sciences; bioenergy, Swedish University of Agricultural Sciences, Uppsala, Sweden, where we worked with Next Generation Sequencing (NGS) data sets.

❖ **IT Lecturer at the University of the Punjab, Lahore**

July 2005 – February 2014

I have worked as a Faculty member at the Department of Information Technology, University of the Punjab Gujranwala Campus (PUGC), Where I taught graduate (BS BIT) and master (MIT) level classes, worked as a Project Coordinator, worked as an In-charge IT department, PUGC.

❖ **IT Lecturer at the University of the Punjab, Lahore**

March 2002 – July 2005

I have worked as a Faculty member at the Punjab University College of Information Technology (PUCIT), University of the Punjab Where I taught graduate (BS CS, BIT) and master (M.Sc.) level classes.

Education

❖ Swedish University of Agricultural Sciences, Uppsala

June 2010 – September 2014

Degree: PhD

I have completed my PhD in Bioinformatics at the Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden.

❖ Swedish University of Agricultural Sciences, Uppsala

August 2009 – June 2010

Degree: MS

Grade: 1st *division*

I have completed my MS in Bioinformatics at the Department of Animal Breeding and Genetics, Swedish University of Agricultural Sciences (SLU), Uppsala, Sweden.

❖ University of Agriculture, Faisalabad

March 1997 – February 2001

Degree: M.Sc.

Grade: 1st *division*

I have completed my M.Sc. Computer Science at the Department of Computer Science, University of Agriculture (UAF), Faisalabad, Pakistan.

❖ University of Agriculture, Faisalabad

March 1992 – January 1997

Degree: B.Sc. (Hons)

Grade: 1st *division*

I have completed my B.Sc. (Hone) in Plant Breeding and Genetics, at the Department of Plant Breeding and Genetics, University of Agriculture (UAF), Faisalabad, Pakistan.

❖ BISE, Bahawalpur

August 1989 – January 1992

Degree: Intermediate of Science

Grade: 1st *division*

I have completed my F.Sc. with Pre-Medical, at T. T. College Khanpur, Board of Intermediate & Secondary Education, Bahawalpur, Pakistan.

❖ BISE, Multan

March 1987 – April 1989

Degree: Matriculation

Grade: 1st *division*

I have completed my Matriculation with Science, at Govt. Pilot Secondary School Multan, Board of Intermediate & Secondary Education, Multan, Pakistan.

Supportive Trainings

- RNA-Seq advanced data analysis course, NBIC (Netherlands bioinformatics center), Leiden, Netherland.
[October 2013 – November 2013](#)
- Annotation and analysis of prokaryotic Genomes using the microscope platform, Saclay, France.
[September 2013 – September 2011](#)
- Next Generation Sequencing, Enafors, Sweden.
[March 2012 – March 2012](#)
- An Introduction to New Generation Sequencing with Focus on Applications in Genomics and Metagenomics, Uppsala, Sweden.
[March 2010 – March 2010](#)
- Applied statistics with R for the agricultural, life and veterinary sciences, Jelgava, Latvia.
[August 2011 – August 2011](#)
- IBM Certification Java Professional, IBM ACE, Islamabad, Pakistan.
[April 2001 – April 2001](#)
- Oracle Certified Associate (OCA), OraTech Lahore, Pakistan.
[July 2006 – July 2006](#)
- Oracle Certified Professional (OCP), OraTech Lahore, Pakistan.
[July 2006 – July 2006](#)
- Oracle Certified Master (OCM), OraTech Lahore, Pakistan.
[October 2006 – October 2006](#)
- RedHat Linux System Administration, OraTech Lahore, Pakistan.
[May 2006 – May 2006](#)
- APPS-DBA (Oracle Financial Administration), OraTech Lahore, Pakistan.
[November 2006 – November 2006](#)

Research Interests

Broadly my area of research is to work with high-throughput Next Generation Sequencing (NGS) genomic, proteomics, RNA-Seq, metagenomics, and microbiome data and metabolic pathways analysis to study the molecular mechanisms, discover meaningful new correlations, patterns, trends and drawing conclusions through sophisticated computational analysis. Furthermore, I am also interested in the

application and development of data mining techniques to solve complex biological problems. My special areas of interest are:

- NGS Data (Assembly, Annotation, Metabolic Pathways Analysis).
- Computational Biology.
- Comparative Genomics.
- R programming.
- Transcriptomics/Proteomics.
- RNA-seq, Metagenomics and Microbiome data analysis.
- Biological Databases.

Teaching profile

- Introduction to Bioinformatics.
- Database Design & Management.
- Database Administration.
- Distributed Database Systems.
- Object Oriented Programming.
- Management Information System.
- Introduction to Information Technology.

Teaching/Research Experience

❖ In total I have more than 16 years of teaching and 9 years of research experience.

- **Faculty Member at the University of the Punjab, Lahore**

July 2005 – Present

- I have been working as an Assistant Professor/Lecturer at the Department of Information Technology, University of the Punjab, Gujranwala Campus (PUGC), University of the Punjab for more than 13 years.

- **Postdoc Researcher at the Swedish University of Agricultural Sciences, Uppsala**

March 2015 – May 2018

I have worked as a Guest/Postdoc Researcher at the Department of Molecular Sciences; bioenergy, Swedish University of Agricultural Sciences, Uppsala, Sweden for more than three years “March 2015 – May 2018”, where we performed the computational analysis of high through put Next Generation Sequencing (NGS) genomic, RNA-Seq, metagenomic, and microbiome data that is generated from various sources like biogas reactors and human faeces. The outcome of this research work will play important role to investigate the process of smooth biogas production and human diseases prediction.

- **PhD Researcher at the Swedish University of Agricultural Sciences, Uppsala**

June 2010 – September 2014

During my PhD studies, I have worked with Next Generation Sequencing (NGS) data, genome assembly, annotation and metabolic pathways analysis to study the molecular mechanisms of a wide range of microbial genomes that are attractive for the scientific community due to their symbiotic and syntrophic lifestyle.

- **Guest Researcher at the University of Nebraska, Omaha**

[March 2013 - May 2013](#)

I have worked as a guest researcher at the College of Information Science and Technology, The University of Nebraska, Omaha, USA for three months. During my stay in Nebraska University I was involved to work with critical pathways and biological correlation network analysis.

- **Teaching at the Swedish University of Agricultural Sciences, Uppsala**

[December 2010 - January 2014](#)

I have taught Bioinformatics course to different degree programs of MS students for four years as a part of my PhD studies at the Swedish University of Agricultural Sciences, Uppsala Sweden.

- **M.Sc. degree Project at the University of Agriculture, Faisalabad**

[September 1999 - February 2000](#)

For my final M.Sc. degree project I have developed and implemented the complete documented computerized hotel management Information System with the title "Computerized Front Office Hotel Management Information System for Ambassador Hotel Lahore".

- **In-charge IT dept. at the University of the Punjab, Lahore**

[January 2006 - March 2009](#)

I have served as an In-charge of the Department of Information Technology, University of the Punjab Gujranwala Campus (PUGC), University of the Punjab for three years.

- **Project Coordinator IT dept. at the University of the Punjab, Lahore**

[November 2005 - March 2009](#)

I have served as a Project Coordinator at the Department of Information Technology, University of the Punjab, Gujranwala Campus (PUGC), University of the Punjab for more than three years and during this period also supervised more than 15 projects and thesis of the BS IT and MS IT students.

- **Faculty Member at the University of the Punjab, Lahore**

[March 2003 - July 2005](#)

I have served as a Faculty Member at the Punjab University College of Information Technology (PUCIT), University of the Punjab, Lahore, Pakistan for more than two years and taught different courses: Database Design & Management System, Distributed database systems, Database Administration to BS IT and M.Sc. Computer Science classes.

Research Publications

- **Shahid Manzoor**; Ahmed Abdul Hameed; Muhammad Usman; Exploring the Links Between Ethical Leadership and Organizational Unlearning: Evidence from a European Multinational company. May 2018, *Business & Economic Review*: Vol. 10, No.1 2018, DOI: dx.doi.org/10.22547/BER/10.1.1.
- **Manzoor, Shahid**; Schnürer, A.; Bongcam-Rudloff, E.; Müller, B. Genome-Guided Analysis of *Clostridium ultunense* and Comparative Genomics Reveal Different Strategies for Acetate Oxidation and Energy Conservation in Syntrophic Acetate-Oxidising Bacteria. *Genes*, April 23,2018, 9(4), 225; DOI: 10.3390/genes9040225.
- **Shahid Manzoor**; Adnan Niazi; Erik Bongcam-Rudloff; "A stepping stone to develop bioinformatics in Pakistan" May 2017, Vol 23, *EMBnet.journal*, DOI: http://dx.doi.org/10.14806/ej.23.0.891.
- **Shahid Manzoor**; Erik Bongcam-Rudloff; Anna Schnürer; Bettina Müller, (2016) Genome-Guided Analysis and Whole Transcriptome Profiling of the Mesophilic Syntrophic Acetate Oxidizing Bacterium *Syntrophaceticus schinkii*. *PLoS ONE* 11(11): e0166520. DOI: 10.1371/journal.pone.0166520.
- **Shahid Manzoor**; Bettina Müller; Erik Bongcam-Rudloff; Anna Schnürer; Complete genome sequence of the *Methanoculleus sp* MAB1, the syntrophic partner of acetate oxidizing bacteria (SAOB). October 2016; *Stand Genomic Sci*. DOI: 10.1186/s40793-016-0199-x. eCollection 2016.
- **Manzoor Shahid**, Müller B., Niazi A., Schnürer A., Bongcam-Rudloff E. Working draft genome sequence of the mesophilic acetate oxidizing bacterium *Syntrophaceticus schinkii* strain Sp3. *Stand Genomic Sci*. 2015 Nov 11; 10:99. DOI: 10.1186/s40793-015-0092-z. eCollection 2015.
- Mushtaq M., **Manzoor Shahid**, Pringle M., & Rosander A. Draft genome sequence of *Treponema phagedenis* strain V1, isolated from bovine digital dermatitis. *Stand Genomic Sci*. 2015 Sep., 10:67. DOI: 10.1186/s40793-015-0059-0.
- Müller B., **Manzoor Shahid**, Niazi A., Bongcam-Rudloff E., Schnürer A. Genome-guided analysis of physiological capacities of *Tepidanaerobacter acetatoxydans* provides insights into environmental adaptations and syntrophic acetate oxidation. *PLoS ONE*. 2015 Mar 26; 10(3): e0121237. DOI: 10.1371/journal.pone.0121237. eCollection 2015.
- Niazi A, **Manzoor Shahid**, Asari S, Bejai S, Meijer J. (2014) Genome Analysis of *Bacillus amyloliquefaciens* Subsp. plantarum UCMB5113: A Rhizobacterium That Improves Plant Growth and Stress Management. *PLoS ONE* 9(8): e104651. DOI: 10.1371/journal.pone.0104651.
- Niazi, A., **Manzoor Shahid**, Bejai, S., Meijer, J., & Bongcam-Rudloff, E. (2014). Complete genome sequence of a plant associated bacterium *Bacillus amyloliquefaciens* strain UCMB5033. *Standards In Genomic Sciences*, 9(3). DOI: 10.4056/doiSIGS.4758653.
- Johansson AH, Bejai S, Niazi A, **Manzoor Shahid**, Bongcam-Rudloff E, Meijer J. Studies of plant colonisation by closely related *Bacillus amyloliquefaciens* biocontrol agents using

strain specific quantitative PCR assays. *Antonie Van Leeuwenhoek*. 2014 Dec; 106(6): 1247-57. DOI: 10.1007/s10482-014-0295-0. Epub 2014 Oct 8. PMID: 25294724.

- **Manzoor Shahid**, Bongcam-Rudloff E, Schnürer A, Müller B. 2013. *Tepidanaerobacter acetatoxydans* strain Re1: The first genome sequence of a syntrophic acetate oxidizing bacteria. *Genome Announcements*. 2013;1(1):e00213-12. DOI:10.1128/genomeA.00213-12.
- **Manzoor Shahid**, Müller B, Bongcam-Rudloff E, Schnürer A. 2013. Draft genome sequence of *Clostridium ultunense* strain Esp, a Syntrophic Acetate Oxidizing bacterium. *Genome Announcements*. 2013;1(2):e00107-13. DOI:10.1128/genomeA.00107-13.
- **Manzoor Shahid**, Niazi A, Bejai S, Meijer J, Bongcam-Rudloff E. 2013. Genome Sequence of a Plant-Associated Bacterium, *Bacillus amyloliquefaciens* Strain UCMB5036. *Genome Announcements*. 2013;1(2):e00111-13. DOI:10.1128/genomeA.00111-13.
- **Shahid Manzoor**; Muhammad Usman; Areeba Mann; Ahmed Abdul Hameed; Tahseen UL Mushataq; "Relationship between subjective age and job satisfaction: mediation through emotional exhaustion" August 2018, *Social Science & Medicine* (Submitted)

Conference Articles

- Conference Proceeding : Naseer, Salman; Liu, William; Sarkar, Nurul, I; Chong, Peter, Han Joo; Lai, Edmund; Ma, Maode; Prasad, Rangarao, Venkatesha; Danh, Tran, Cong; Chiaraviglio, Luca; Qadir, Junaid; Cao, Yue; Wu, Jinsong; Lutui, Raymond; **Manzoor, Shahid** "A Sustainable Marriage of Telcos and Transp in the Era of Big Data: Are We Ready?" 3rd EAI International Conference on Smart Grid and Innovative Frontiers in Telecommunications, April 24, 2018 Auckland, New Zealand.
- Conference Proceeding: **Shahid Manzoor**, Erik Bongcam Rudloff, Anna Schnürer, Bettina Müller "Ion Torrent Sequencing and pipeline assembly of the first genome sequence of a mesophilic Syntrophic Acetate Oxidizing Bacterium (SAOB)"; *SeqAhead Conference* "The next NGS Challenge: Data Processing and Integration", May 15-16, 2013, Valencia, Spain, Vol 19, DOI: <http://dx.doi.org/10.14806/ej.19.A.665>.
- Conference Proceeding: Adnan Niazi, **Shahid Manzoor**, Sarosh Bejai, Johan Meijer, Erik Bongcam-Rudloff; "Genome sequence of plant associated rhizobacterium *Bacillus amyloliquefaciens* strain UCMB5033" ; COST Workshop "High Throughput Omics and Data Integration"; February 13-15, 2013 Barcelona, Spain, Vol 19, DOI: <http://dx.doi.org/10.14806/ej.19.A.660>.

Thesis

- ❖ **Swedish University of Agricultural Sciences, Uppsala**
Shahid Manzoor – September 2014

Degree: PhD in Bioinformatics

Title: "Computational and comparative investigations of syntrophic acetate-oxidising bacteria (SAOB) genome-guided analysis of metabolic capacities and energy conserving systems".

Diss. (sammanfattning/summary) Uppsala: Sveriges lantbruksuniv., Acta Universitatis agriculturae Sueciae, 1652-6880 ; 2014:56

ISBN 978-91-576-8060-0 , eISBN 978-91-576-8061-7).

❖ **Swedish University of Agricultural Sciences, Uppsala**

Shahid Manzoor – June 2010

Degree: MS in Bioinformatics

Title: "Bioinformatics assembly and analysis and annotation of the *Bacillus amyloliquefaciens* strain 5036 genome"

Second cycle, A2E. Uppsala: SLU, Dept. of Animal Breeding and Genetics.

(<http://urn.kb.se/resolve?urn=urn:nbn:se:slu:epsilon-s-1734>).

❖ **University of Agriculture, Faisalabad**

Shahid Manzoor – February 2000

Degree: M.Sc. in Computer Science

Title: "Computerized Front Office Hotel Management Information System for Ambassador Hotel Lahore"

Conferences/Workshops

- 6th Workshop on Collaborative Scientific Software Development and Management of Open Source Scientific Packages, Sharif University, Tehran, Iran.
April 2018 – May 2018
- Workshop on Systems Biology and Molecular Economy of Microbial Communities, International Centre for Genetic Engineering and Biotechnology (ICGEB - ICTP), Trieste Italy.
July 2017 – July 2017
- Swedish Bioinformatics workshop 2015 "SBW2015", Stockholm, Sweden.
September 2015 – September 2015
- Workshop – Analyzing thousands of bacterial genomes: gene annotation, metabolism and regulation, Marseille, France.
June 2014 – June 2014
- Next Generation Sequencing (NGS) methods for identification of mutations and large structural variants, Lausanne, Switzerland.
March 2014 – March 2014
- Workshop – Metagenomic data analysis, SciLifeLab, Stockholm, Sweden.
June 2014 – June 2014
- Workshop – RNA-seq / Proteomics, SciLifeLab, Uppsala, Sweden.
August 2014 – August 2014

- COST Workshop: High Throughput Omics and Data Integration, Barcelona, Spain.
February 2013 – February 2013
- SeqAhead Conference "The next NGS Challenge: Data Processing and Integration, Valencia, Spain.
May 2013 – May 2013
- 8th International Symposium on Anaerobic Microbiology (ISAM8), Innsbruck, Austria.
June 2013 – June 2013
- Workshop – Phenotype Prediction using Genomic Data, UF Cancer & Genetics Research Complex, University of Florida, Gainesville, FL. USA.
August 2013 – August 2013
- Bioinformatics test case solution workshop / hackathon, Uppsala, Sweden.
October 2013 – October 2013
- CRU metabolism symposium: Metabolism and reproduction in humans and animals” in the Centre for Reproductive Biology, Uppsala, Sweden.
April 2012 – April 2012
- Next Generation Sequencing: What's Next? Uppsala, Sweden.
June 2012 – June 2012
- Bioinformatics Workshop "Evaluation of Test Cases", Milan, Italy.
December 2012 – December 2012

Tourism

I have been to the following cities: Amsterdam (Holland), Barcelona (Spain), Berlin (Germany), Paris (France), Copenhagen (Denmark), Doha (Qatar), Frankfurt (Germany), Milan (Italy), Istanbul (Turkey), Innsbruck (Austria), Oslo (Norway), Omaha (USA), Munich (Germany), Leiden (Netherlands), Helsinki (Finland), Jelgava (Latvia), Orlando (USA), Valencia (Spain), Belgrade (Serbia), Rome (Italy), Umeå (Sweden), Stockholm (Sweden), Prague (Czech Republic), Trondheim (Norway), Riga (Latvia), Kassel (Germany), Malmo (Sweden), Hunza Valley (Pakistan), Abu Dhabi (UAE), Zurich (Switzerland), Uppsala (Sweden), Lausanne (Switzerland), Marseille (France).

❖ REFERENCES

- **Dr. Erik Bongcam-Rudloff**, Professor in Bioinformatics, from the Department of Animal Breeding and Genetics, Director SLU Global Bioinformatics Centre, Swedish University of Agriculture Sciences,
750 07 UPPSALA, Sweden.
erik.bongcam@slu.se | +46 (0) 18 67 21 21
- **Dr. Johan Meijer**, Professor from Institute of Plant Biology, Almas Allé 5, BioCentrum, Swedish University of Agriculture Sciences,
750 07 UPPSALA, Sweden.
johan.meijer@slu.se | +46 (0) 18 67 33 21
- **Dr. Bettina Müller**, Associate Professor from the Department of Molecular Sciences; bioenergy, Swedish University of Agricultural Sciences,
750 07 UPPSALA, Sweden.
bettina.muller@slu.se | +46 (0) 18 67 33 27
- **Dr. Sayyid Salman Rizavi**, Professor, Director General from the University of the Punjab Gujranwala Campus. Gujranwala, Pakistan.
dg@pugc.edu.pk | +92 (0) 55 92 00 985