

MUHAMMAD ZOHAIB ANWAR

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EXPERIENCE

Position Title	Bioinformatics Research Engineer (July 2013 – March 2016)
Employer	Dr. Andreas Henschel
Organization	Masdar Institute of Science and Technology (MIST), UAE Institute Center for Smart and Sustainable Systems (iSmart), Department of Electrical and Computational Science.
Projects	<ol style="list-style-type: none">1. Meta –Analysis of EnvO annotated Microbial Communities.2. Molecular analysis for the detection of human bacterial pathogens in municipal wastewater treatment and reuse.3. Computational analysis of microbial communities in Anthropogenic Environments.4. Increased Comparability Of Environmental Sequencing Efforts Of 16S rRNA Bacterial Community Profiles.5. Mycobacteria in the municipal wastewater treatment process: Micro diversity and occurrence of pathogenic species.6. 16s Microbial Search engine based on beta-diversity.7. Identification of Discriminatory Taxa for Anthropogenic Environments through Taxonomy-Aware Feature Engineering.8. Studying the microbial communities in Membrane Distillation and Reverse Osmosis.9. Identification of Discriminatory OTUs for different human body sites using Taxonomy-Aware Feature Engineering.10. Global meta-analysis of human and earth microbiome diversity.

OTHER RESEARCH/MANAGEMENT EXPERIENCE

Position Title	Research Intern (June – August 2009)
Employer	Dr. Naeem Azeemi, Hasan Bilal Mirza
Organization/Department	Centre for Advanced Studies in Telecommunication (CAST), Islamabad, Pakistan.
Project	Analysis and Development of Bio-Network Visualization Tools.

PUBLICATIONS

Journal Papers

- Henschel, Andreas, **Muhammad Zohaib Anwar**, and Vimitha Manohar. "Comprehensive Meta-analysis of Ontology Annotated 16S rRNA Profiles Identifies Beta Diversity Clusters of Environmental Bacterial Communities." *PLoS Comput Biol* 11, no. 10 (2015): e1004468. **Press (How Big Data Can Transform our Understanding of Microbial Communities)** [<https://goo.gl/A0paxv>]
- Kumaraswamy, Rajkumari, Yamrot M. Amha, **Muhammad Z. Anwar**, Andreas Henschel, Jorge Rodríguez, and Farrukh Ahmad. "Molecular analysis for screening human bacterial pathogens in municipal wastewater treatment and reuse." *Environmental science & technology* 48, no. 19 (2014): 11610-11619.
- Anwar, Muhammad Zohaib**, Anoosha Sehar, Inayat-ur Rehman, and Mohammad Hassan Khalid. "Gene Locater: Genetic linkage analysis software using three-point testcross." *Bioinformatics* 8, no. 5 (2012): 243.
- M. Amha, Yamrot, Rajkumari Kumaraswamy, **Muhammad Zohaib Anwar**, Andreas Henschel, Farrukh Ahmad. "Mycobacteria in the municipal wastewater treatment process: Micro diversity and occurrence of pathogenic species". **Manuscript submitted in Environmental science & technology**

Conferences

- Andreas Henschel, Mai Oudah, and **Muhammad Zohaib Anwar**. "Identification of Discriminatory Taxa for Anthropogenic Environments through Taxonomy-Aware Feature Engineering". *Microbes in the City: Mapping the Urban Genome*. New York, USA. **July, 2015**.

2. **M. Z. Anwar**, V. Manohar, A. Henschel. "Increased Comparability Of Environmental Sequencing Efforts Of 16S rRNA Bacterial Community Profiles". HitSeq, 22nd Annual Conference on Intelligent Systems for Molecular Biology (ISMB). Boston, USA. **July, 2014**.
3. S. S. A. Zaidi, X. Zhang, **M. Z. Anwar**, A. Sehar, A. Siddiqua. "Statistical Association / Analysis of the Role of Non-Coding SNPs in Causing Type 1 Diabetes and Gastritis". The Twelfth Asia Pacific Bioinformatics Conference. Shanghai, China. **January, 2014. [POSTER]**
4. Syafiq kamrul, **Muhammad Zohaib Anwar**, Andreas Henschel. "Meta-Analysis of biofouling Desalination membranes". UAE Graduate Students Research Conference, UAE. **January, 2016**.
5. Andreas Henschel, **Muhammad Zohaib Anwar**. "Global meta-analysis of human and earth microbiome diversity". Genomics and Systems Biology V. Abu Dhabi, UAE. **April 2016. [POSTER]**

KEY SKILLS

1. Specialized in Database development, management and curation. [Developed largest published Microbiome Database]
2. Bioinformatics pipeline development using Python, R, PERL, and Java.
3. Experienced in NGS data analysis, Statistical analysis and Molecular Bioinformatics.
4. Extensive experience on HPC, Linux/Unix platform.
5. Ability to work as an individual and Group member.
6. Ability to establish sound communication and coordination between personnel across various levels.
7. Competent knowledge in fields of biology, statistics and computer science.
8. Excellent management, presentation and manuscripts/report making abilities.

COMPUTATIONAL SKILLS

PYTHON, JAVA, C/ C++, HTML, MATLAB, R Bioinformatics, PERL, PROLOG, MySQL, Linux, High Performance Computing, Qiime Environment etc.
Using Bioinformatics software extensively and adaptable to learn and use new software.

EDUCATION

August 2012, **BS Bioinformatics**

COMSATS Institute of Information Technology, *Islamabad, Pakistan*

CERTIFICATIONS

January 2012, **MATLAB for BIOINFORMATICS**

Short course arranged by CAST (Center Of Advance Studies In Telecommunication)

HONORS & AWARDS

- Winner of first Interuniversity Bio-Programming Competition [2012]
- Gold Medal: Cricket -- 2005 & 2006
- Saudi Arabia U-15 & U-17 Cricket player -- 2003-2007
- Member: CIIT Basketball, Table Tennis (Captain), Cricket team

LANGUAGES

English (excellent), **Urdu** (Native)

REFERENCES

Will be provided if requested