M Fauzi **Haroon**

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EDUCATION

UNIVERSITY OF QUEENSLAND
PhD in Environmental Science
Jan 2015 | Queensland, Australia

UNIVERSITY OF QUEENSLAND
BBiotech (Hons I) in Microbial Biotechnology
Dec 2010 | Queensland, Australia
Cum. GPA: 6.6/7.0

NGEE ANN POLYTECHNIC
Dip in Biotechnology
July 2006 | Singapore

SKILLS

BIOINFORMATICS
Competent: Unix • Perl • R • LaTeX • Github • Handling big data • MS office series • Inkscape/Illustrator
Basic: Python

MOLECULAR BIOLOGY
DNA/RNA extraction • Algae culturing for biodiesel production • Anaerobic culturing • Fluorescence in situ hybridization • Electron microscopy • BD FACSAria Flow sorter • Illumina/IonTorrent/454 library prep

LANGUAGES
English (native), Malay (fluent), Arabic (minimal)

EXPERIENCE

HARVARD UNIVERSITY | POSTDOCTORAL FELLOW
DEPT OF ORGANISMIC AND EVOLUTIONARY BIOLOGY | July 2016 – Present | Cambridge, US

- Project: The phylogenetic and functional diversity of extracellular electron transfer across all three domains of life (NSF-funded)
- Systematic phylogenetic characterization of electroactive communities
- Enrichment and "omic" analyses on electroactive communities

KING ABDULLAH UNIVERSITY OF SCIENCE & TECHNOLOGY | POSTDOCTORAL FELLOW
Red Sea Research Center | 2015 – 2016 | Thuwal, KSA

- Handle BIG DATA from different sequencing platforms
- Extracting near-complete/complete NOVEL genomes from metagenomes and elucidating their role in nutrient cycling in the Red Sea.
- Determining the environmental variables that select for different phytoplankton, in particular SAR11 and Prochlorococcus groups
- Mentoring PhD students in the Red Sea Research Center
- Six published and four papers currently in review during the one year

THE UNIVERSITY OF QUEENSLAND | PHD RESEARCHER
Australian Centre for Ecogenomics | 2011 – 2015 | Brisbane, AUS

- Studied processes which can mitigate atmospheric methane concentrations and nitrogen input into aquatic environments
- Mentored by world-renowned microbial ecology experts Prof Gene Tyson and Prof Phil Hugenholtz
- First-author in work published in the journal, Nature
- Expert in culture-independent approaches such as metagenomics (DNA), metatranscriptomics (RNA), metaproteomics (protein) and single-cell genomics (DNA)
- Handled sequencing data from different sequencing platforms - Sanger, 454, Illumina, IonTorrent and PacBio
- Anaerobic culturing (isolation) experience for methane-consuming communities
- Lecturer and demonstrator for fluorescence in situ hybridization course held in Brisbane, Australia

THE UNIVERSITY OF QUEENSLAND | UNDERGRADUATE RESEARCHER
Advanced Water Management Centre | 2009 - 2011 | Brisbane, AUS

- Conducted ecological surveys of microbial communities in Little Nerang Dam, Queensland, Australia
- Worked closely with government and research partners to assess environmental impact
- First person in Australia to develop a single-cell genomics protocol without contamination
- Honors dissertation title: Molecular characterisation of microbial communities involved in anaerobic methane driven denitrification

EXPERIENCE

THE UNIVERSITY OF QUEENSLAND | UNDERGRADUATE RESEARCHER

Institute of Molecular Biosciences & School of Biological Sciences | 2008 - 2009 | Brisbane, AUS

- Formulated a low-cost way of culturing ALGAE with high lipid content for biodiesel production
- Mining of useful bodies of data from large sequencing datasets

NANYANG TECHNOLOGICAL UNIVERSITY | INTERN

College of Engineering | 2005 - 2006 | Singapore

- Development of microfluidic biochip for biological and medicinal diagnostics
- Optimization techniques for amplifying minute amounts of DNA

RESEARCH ACTIVITIES

PUBLICATIONS

- Zhang G, Gu J, Zhang R, Rashid M, **Haroon MF**, Xun W, Ruan Z, Dong X, Stingl U. Haloprofundus marisrubri gen. nov., sp. nov., an extremely halophilic archaeon isolated from the Discovery Deep brine-seawater interface in the Red Sea. In review in ***International Journal of Systematic and Evolutionary Microbiology***.
- **Haroon MF**, Thompson LR, Parks DH, Hugenholtz PH, Stingl U. A catalogue of 146 microbial genomes from the Red Sea. ***Scientific Data*** 3, 160050
- Thompson LR, Williams GJ, **Haroon MF**, Shibl AA, Larsen P, Shorenstein J, Knight R, Stingl U. Metagenomic covariation along densely sampled environmental gradients in the Red Sea. ***The ISME Journal*** advance online publication.
- Shibl AA, **Haroon MF**, Ngugi DK, Thompson LR, Stingl U. Detailed pyrotag and metagenomic analyses indicate homogeneity of Prochlorococcus ecotypes in the water column of the Red Sea's main basin. ***Frontiers in Marine Science*** 3 (104).
- Skennerton CT, **Haroon MF**, Briegel A, Shi J, Jensen GJ, Tyson GW, Orphan VJ (2016). Phylogenomic analysis of Candidatus 'Izimaplasma'species: free-living representatives from a Tenericutes clade found in methane seeps. ***The ISME Journal.*** advance online publication
- Zhang G, **Haroon MF**, Zhang R, Hikmawan T, Stingl U (2016). Draft Genome Sequence of Pseudoalteromonas sp. Strain XI10 Isolated from the Brine-Seawater Interface of Erba Deep in the Red Sea. ***Genome Announcements.*** 4 (2), e00109-16
- Zhang G, **Haroon MF**, Zhang R, Hikmawan T, Stingl U (2016). Draft Genome Sequences of Two Thiomicrospira Strains Isolated from the Brine-Seawater Interface of Kebrit Deep in the Red Sea. 4 (2), e00110-16
- **Haroon MF**, Thompson LR, Stingl U (2016). Draft genome sequence of uncultured SAR324 binned from a Red Sea metagenome. ***Genome Announcements.*** 4 (1), e01711-15
- Hu S, Zeng RJ, **Haroon MF**, Keller J, Lant PA, Tyson GW, Yuan Z (2015). A laboratory investigation of interactions between denitrifying anaerobic methane oxidation (DAMO) and anammox processes in anoxic environments. ***Scientific Reports.*** 5 (8607).
- Goffredi S, Jang G, **Haroon MF** (2015). Transcriptomics in the tropics: Total RNA-based profiling of Costa Rican bromeliad-associated communities. ***Computational and Structural Biotechnology Journal.*** 13, 18-23.
- **Haroon MF**, Hu S, Shi Y, Imelfort M, Keller J, Hugenholtz P, Yuan Z, Tyson GW (2013). Anaerobic oxidation of methane coupled to nitrate reduction in a novel archaeal lineage. ***Nature.*** 500 (7464), 567-570. **Article recommended in F1000.**
- **Haroon MF**, Skennerton CT, Steen JA, Lachner N, Hugenholtz P, Tyson GW (2013). In-solution fluorescence in situ hybridization and fluorescence-activated cell sorting for single cell and population genome recovery. In F. DeLong Edward (Ed.), ***Methods in Enzymology*** (Vol. Volume 531, pp. 3-19): Academic Press.
- Yilmaz S, **Haroon MF**, Rabkin BA, Tyson GW, Hugenholtz P (2010). Fixation-free fluorescence in situ hybridization for targeted enrichment of microbial populations. ***The ISME Journal.*** 4 (10), 1352-1356

CONFERENCE PROCEEDINGS

- 6th International Conference on Computational Systems-Biology and Bioinformatics. 2015. Insight into the metabolism of Red Sea Marine Group II Euryarchaeota. Bangkok, Thailand - **Poster**
- International Symposium on Microbial Ecology 15. 2014. Discovery of a novel organism capable of anaerobic oxidation of methane coupled to nitrate reduction. Seoul, South Korea – **Oral**
- 9th Annual School of Chemistry and Molecular Biosciences Research Students Symposium. 2013. Anaerobic oxidation of methane coupled to nitrate reduction in a novel archaeal lineage. Brisbane, Australia – **Poster**
- Biennial School of Chemistry and Molecular Biosciences Research Symposium. 2013. Anaerobic oxidation of methane coupled to nitrate reduction in a novel archaeal lineage. Brisbane, Australia – **Poster**
- Australian Society of Microbiology Conference. 2011. Using single cell genomics to investigate a missing link in the global carbon and nitrogen cycle. Hobart, Australia – **Invited Oral**

- Australian Society of Microbiology Conference. 2010. Molecular Characterisation of Microbial Communities Performing Anaerobic Methane Driven Denitrification. Sydney, Australia – **Poster**

AWARDS

- **2015** Dean Award for Outstanding Research Higher Degree Theses
- **2011** University of Queensland International Postgraduate Research scholarship
- **2010** Winner of Australian Society for Microbiology (ASM) Microbe Image
- **2010** Runner-up in International Society of Microbial Ecology (ISME) Journal Cover competition
- **2008, 2009 & 2010** Dean's Commendation for High Achievement
- **2009** Advanced Water Management Centre Honours scholarship
- **2009** Institute of Molecular Biosciences Undergraduate Research scholarship