# Nishanth **Merwin**

Bioinformatician

*Hamilton ON, Canada*

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*"A researcher tackling biology one keystroke at a time."*

## Summary

Current consultant for Adapsyn Biosciences as their resident machine learning and genomic data specialist. Over four years working in academic and industrial biological research environemnts and two years specializing in informatics solutions. A problem solver with linux, python and a slew of machine learning algorithms as a toolbox for building solutions to the challenging tasks at hand.

## Work and Research Experience

### Adapsyn Bioscience  *Hamilton, ON, Canada*

Genomics & Data Science Consultant  *Sep. 2016 - Current*

- Developed metabolomic pipeline to translate raw data, along with user inputted metadata, into a query-able format for database import and visualization. Built using OOB principles in Java 8.
- Assembled bacterial genomes using hybrid sequencing data, and subsequently analysed data to reveal potentially novel antibiotics

### McMaster University  *Hamilton, ON, Canada*

Graduate Research Student, Supervised by Dr. Nathan Magarvey  *May. 2015 - Current*

- Built an analytical toolkit for rapid isolation and characterization of novel peptidic small molecules using genomic and metabolomic datasets.
- Ported PRISM, a genomic analysis software for translating genomic data into small molecule predictions, onto 300-core HPC infrastructure to scale usage for public users.
- Built interactive web visualizations for viewing high dimensional mass spectrometry and genomic data using D3.js.

### McMaster University  *Hamilton, ON, Canada*

Senior Thesis Student, Supervised by Dr. Elizabeth Weretilnyk  *Sep. 2014 - May 2015*

- Developed a multifaceted project in order to build a thorough understanding of Eutrema salsugineum's responses to potassium deficiency.
- Effectively presented up to date findings at local and external conferences to engage and learn from meaningful discussions.

### The Hydropothecary Corporation  *Gatineau, QC, Canada*

Student Researcher  *May. 2014 - Aug. 2014*

- Conducted primary and secondary research in order to provide proper advisory services for the large-scale production of medical marijuana with consistent and optimal cannabinoid profiles.
- Worked alongside a team to successfully plan and harvest the first annual production of medical marijuana within a 650 m$^2$ greenhouse.

### Algaeneers Inc.  *Hamilton, ON*

Student Researcher  *June 2013 - April 2014*

- Gained practical experience with novel biochemical techniques to develop high-level recombinant protein expression in a microalgae systems.
- Developed tools to assess transformation efficacy through transcriptional and functional assays.

## Education

### McMaster University  *Hamilton, ON, Canada*

M.Sc. in Biochemistry and Biomedical Sciences  *May. 2016 - Current*

- Awarded graduate research scholarship (~45K) acknowledging impact of research completed during studies.

### Seneca College  *Toronto, ON, Canada*

Graduate Certificate in Bioinformatics  *Sep. 2015 - May. 2016*

- Graduated with President's Honour list for outstanding academic achievements.

### McMaster University  *Hamilton, ON, Canada*

B.H.Sc. specializing in Biochemistry and Biomedical Science  *Sep. 2011 - May. 2015*

- Received McMaster Honour and Dean's Honour list awards for outsanding academic transcripts.

# Publications

- Mousa WK, Athar B, **Merwin NJ**, Magarvey NA. Antibiotics and specialized metabolites from the human microbiota. Natural Product Reports 2017; doi:10.1039/c7np00021a
- Skinnider MA, **Merwin NJ**, Johnston CW, Magarvey NA. PRISM 3: expanded prediction of natural product chemical structures from microbial genomes. Nucleic Acids Research 2017; doi:10.1093/nar/gkx320
- Skinnider MA, Johnston CW, Edgar RE, Dejong CA, **Merwin NJ**, Rees PN, et al. Genomic charting of ribosomally synthesized natural product chemical space facilitates targeted mining. Proceedings of the National Academy of Sciences; 2016; doi:10.1073/pnas.1609014113

# Honors & Awards

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| 2017 | **Excellence in Oral Presentation Award**, Faculty of Health Sciences Plenary | | *Hamilton, ON* |
| 2016 | **2nd Place**, iGEM Bioinformatics Hackathon | | *University of Toronto* |