Nhi Hin

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Experience

Bioinformatician
South Australian Genomics Centre (SAGC)

September 2020 - Present

Key Highlights

- Completed and delivered 8 custom bioinformatics analysis projects over the past 11 months. Feedback from clients included "timely completion", "detailed documentation", "transparent and reproducible", and "well-presented".

- Drove analysis of an 8-month-long 10X single-cell RNA-seq project investigating tissue development. The analysis resulted in successful integration of multiple datasets across different organs, deployment of an interactive web app, and characterisation of novel cell populations.

Publications

- **Hin N**, Newman M, Pederson S, Lardelli M. (2020). Iron Responsive Element (IRE) mediated responses to iron dyshomeostasis in Alzheimer's disease. *bioRxiv*. doi: 10.1101/2020.05.01.071498. PREPRINT (accepted at *Journal of Alzheimer's Disease*).

- **Hin N**, Newman M, Kaslin J, Douek AM, Lumsden A, Nik SHM, Dong Y, Zhou X-F, Mañucat-Tan NB, Ludington A, Adelson DL, Pederson S, Lardelli M. (2020). Accelerated brain aging towards transcriptional inversion in a zebrafish model of the K115fs mutation of human *PSEN2*. *PLOS ONE*. 15(1):e0227258. doi: 10.1371/journal.pone.0227258.

- **Hin N**, Newman M, Pederson S, Lardelli M. (2019). Brain transcriptome analysis of a familial Alzheimer's disease-like mutation in the zebrafish *presenilin 1* gene implies effects on energy production. *Molecular Brain*. 12(1):43. doi: 10.1186/s13041-019-0467-y

- Dong Y, Newman M, Pederson SM, Barthelson K, **Hin N**, Lardelli M. Transcriptome analyses of 7-day-old zebrafish larvae possessing a familial Alzheimer's disease-like mutation in *psen1* indicate effects on oxidative phosphorylation, ECM and MCM functions, and iron homeostasis. (2021). *BMC Genomics*. 22(1):1-6.

- Breen J, McAninch D, Jankovic-Karasoulos T, McCullough D, Smith MD, Bogias KJ, Wan Q, Choudhry A, **Hin N**, Pederson S, Bianco-Miotto T, Roberts C. (2020). Temporal placental genome wide expression profiles reflect three phases of utero-placental blood flow during early to mid human gestation. *medRxiv*. doi: 10.1101/2020.06.25.20139709. PREPRINT.

- Newman M, Nik HM, Sutherland GT, **Hin N**, Kim WS, Halliday GM, Jayadev S, Smith C, Laird AS, Lucas CW, Kittipassorn T. (2020). Accelerated loss of hypoxia response in zebrafish with familial Alzheimer's disease-like mutation of presenilin 1. *Human Molecular Genetics*. 29(14):2379-94.

References

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Skills & Competencies

Technical Skills

`Linux` `High Performance Computing` `R`
`Git / version control` `Reproducible Research`
`Pipeline Development` `R/Shiny web apps`

Bioinformatics Analysis

`RNA-seq` `10X Single-cell RNA-seq`
`Microarrays` `LC-MS/MS` `Statistics`
`Omics data integration` `CRISPR screens`

Education

Doctor of Philosophy (2017 – 2020)
The University of Adelaide, Australia

- Conferred December 2020

- **Thesis Topic**: Transcriptome analysis of zebrafish genetic models to reveal early molecular drivers of Alzheimer's disease

- Winner of University Medal (top 4% of theses submitted in 2020)

Achievements

- **2021 – Mace Bearer of Graduation Ceremony**, The University of Adelaide, Adelaide, Australia.

- **2021 – Semi-Finalist in 7NEWS Young Achiever Awards**, 7NEWS, Adelaide, Australia.

- **2020 – University Doctoral Research Medal (top 4% of theses submitted in 2020)**, The University of Adelaide, Adelaide, Australia.

- **2020 – Dean's Commendation for Doctoral Thesis Excellence**, The University of Adelaide, Adelaide, Australia.

- **2019 – Oral Presentation Award (1st Place)**, out of 15 speakers, COMBINE 2019. Sydney, Australia.

- **2019 – Best Poster Award**, out of 35 entrants, AMSI BioInfoSummer. Sydney, Australia.

- **2019 – CHOOSEMaths Travel Grant Winner,** one of 20 winners selected nationally, Australian Mathematical Sciences Institute (AMSI). Sydney, Australia.

- **2019 – Best Student Presentation Award**, out of 50 speakers, Australia-Japan Joint Neurodegenerative Disease Symposium. Adelaide, Australia.

- **2017 – Oral Presentation Award (3rd Place)**, out of 15 speakers, COMBINE Symposium 2017. Adelaide, Australia.

- **2017 – Best Poster Award**, out of 36 entrants, Model Organisms in Human Health Australia (MOHHA). Yarra Valley, Victoria.