Bryce Lim

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PERSONAL PROFILE

I am a highly motivated researcher with an interest in cell fate and cancer biology. I have experience in a wide variety of laboratory techniques, including *in vitro* plate-based biochemical assays, protein expression and analysis, and tissue culture. I am proficient in using specialist software and writing scripts to generate, manage, and analyse large and complex datasets.

EDUCATION

German Cancer Research Centre (DKFZ), University of Heidelberg, PhD — 2019-Present

- Molecular determinants of cell fate

University of Cambridge, MSci in Biochemistry — 2018-2019

- Cell Fate
- Contemporary Cancer Studies

University of Cambridge, BA (Hons) in Natural Sciences — 2015-2018

1st Year

- Biology of Cells
- Physiology of Organisms
- Chemistry
- Mathematical Biology

2nd Year

- Biochemistry and Molecular Biology
- Physiology
- History and Philosophy of Science

3rd Year

- Biochemistry

Chinese International School of Hong Kong, International Baccalaureate Diploma — 2011-2014

- Higher Level: Chemistry, Biology, Mathematics
- Standard Level: History, English Literature, Chinese ab initio

RESEARCH EXPERIENCE

PhD, Mall Lab, German Cancer Research Institute (DKFZ), Heidelberg, Germany — Sep 2019-Present

Investigation of terminal repressor transcription factors and their role in cell fate specification during transdifferentiation in Dr Moritz Mall's lab.

Master of Science Project Student, Markowetz Lab, Cancer Research UK Cambridge Institute — Oct 2018-Mar 2019

Identification of structural variation signatures in paired ovarian cancer cell lines and a comparison of these with established copy number signatures in ovarian cancer with Dr Andrew Holding in Florian Markowetz's lab.

- Human tissue culture, Hi-C, library preparation for Illumina sequencing, Hi-C data analysis and presentation

Intern Scientist, Cancer Research UK Therapeutic Discovery Laboratory, Cambridge, UK — Jul-Sep 2018

Developed a kinetic ATPase assay for testing compounds against enzyme targets as part of a key Alliance project.

- Kinetic assay development and optimisation in FI, FP, and FRET plate-based formats
- Detailed data analysis using GraphPad Prism; presentation of work to core Screening and Compound Profiling team

Final Year Project Student, Silva Lab, Cambridge Stem Cell Institute, Cambridge, UK — Jan-Mar 2018

Investigated the influence of various pluripotency-related genes upon STAT3 signalling in transfected mouse embryonic stem cells in Dr José Silva's lab.

- Mouse ESC tissue culture, cell line management, Tet-on gene induction, Western blotting, RT-qPCR

Summer Intern, Thornton Lab, EMBL-EBI, Hinxton, UK — Jun-Sep 2017

Generated a database of designed (*de novo*) enzymes in Prof Janet Thornton's lab.

- Chemical formula encoding using SMILES and .mol files, and mechanism encoding using .rxn files
- Data manipulation, management, and analysis using Python, RDKit, EC-BLAST, and Reaction Decoder Tool

Technical Assistant, Tanner Lab, Biochemistry Dept., University of Hong Kong — Oct 2014-Sep 2015

Developed a malaria rapid diagnostic test and droplet sorting device in Dr Julian Tanner's lab.

- Protein expression: sterile techniques, cell culture, FPLC, SDS-PAGE, Western blotting
- Microfluidic rapid diagnostic test design and printing: 3D CAD and stereolithography
- Directed evolution of DNA aptamers (SELEX)
- Enzyme-linked assays: Magnetic bead-based aptamer-tethered enzyme capture, gold nanoparticle competitive assays, DNAzyme selection through fluorescence activated droplet sorting

PUBLICATIONS

Fraser, L. A., Kinghorn, A. B., Dirkzwager, R. M., Liang, S., Cheung, Y. W., **Lim, B.**, Shiu, S. C. C., Tang, M. S., Andrew, D., Manitta, J., Richards, J. S. and Tanner, J. A. A Portable Microfluidic Aptamer Tethered Enzyme Capture (APTEC) Biosensor for Malaria Diagnosis. *Biosensors and Bioelectronics* 100 (2018): 591-596.

Fraser, L.A., Kinghorn, A.B., Tang, M.S., Cheung, Y.W., **Lim, B.**, Liang, S., Dirkzwager, R.M. and Tanner, J.A. Oligonucleotide Functionalised Microbeads: Indispensable Tools for High-Throughput Aptamer Selection. *Molecules* 20, no. 12 (2015): 21298-21312.

WORK EXPERIENCE

Summer Teacher, Kelly Yang Project, Hong Kong — Jun-Aug 2016

Taught English to students 5-16 years old; created lesson plans for Model UN and debate

Private Tutor, IB Middle Years Program, Hong Kong — Sep 2014-Aug 2015

Tutored students in years 8 and 9 in mathematics, biology, chemistry, physics, and English

SKILLS

Programming and Markup	Proficient in Python; basic knowledge of R, Matlab, and Java; proficient in HTML and CSS; proficient with git and the command line
Specialist Applications	HiCUP, Homer Tools, PyMol, RDKit, ChEBI API, EC-BLAST, Reaction Decoder Tool, ImageJ, GraphPad Prism
CAD	CATIA, Autodesk Fusion 360, Autodesk Inventor, Blender, and ASIGA software

CO-CURRICULAR ACTIVITIES

Fitzwilliam College Natural Sciences Society	President 2017-18; organised academic and social events for members.
Athletics	Fitzwilliam College Athletics Captain 2018-2019. University Sprints Squad Captain 2018-2019. Member of Cambridge University Athletics Club and Achilles Club. Member of 2018 and 2019 Varsity Match teams.
Football	Fitzwilliam College 2nd team; 2017 League and Cup champions.
Cancer Awareness in Teenagers Society	College representative; raised funds and organised events to raise awareness of cancer in teenagers and young people.

REFERENCES

Dr Moritz Mall

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