CURRICULUM VITAE

Samuel Aroney

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EDUCATION

Tertiary

Institution:	University of Oxford
Degree:	Doctor of Philosophy (DPhil),
	Interdisciplinary Bioscience Doctoral Training Partnership (BBSRC)
Dates:	September 2016 – Ongoing

Institution:	University of Queensland
Degree:	Bachelor of Science: Honours
Dates:	July 2015 – June 2016
1st Class	

Institution:	University of Queensland
Degree:	Bachelor of Science
Major:	Biochemistry and Molecular Biology
Dates:	July 2012 – June 2015
Grade Point Average:	6.3

AWARDS AND SCHOLARSHIPS

University of Oxford Scholarships

Brasenose Studentship Fund (650GBP)	2020
Brasenose Oxford-Australia Clarendon Scholarship	2016-2020

University of Queensland Scholarships

UQ Honours Scholarship (4000AUD)	2015-2016
UQ Summer Research Scholarship (2,400AUD)	2013-2014
UQ Summer Research Scholarship (2,400AUD)	2012-2013
UQ Excellence Scholarship (24,000AUD)	2012-2015

RESEARCH EXPERIENCE

Interdisciplinary Bioscience Doctoral Training Partnership DPhil Project (August 2017-Ongoing)

Determining the role of flagellar swimming and chemotaxis in the symbiosis of *Rhizobium leguminosarum* with *Pisum sativum* (pea). Characterising the influence of the metabolic potential of the environment, especially through the phospho-transferase system, on its swimming ability.

Internship with The Zooniverse, Department of Astrophysics (September-November 2019)

Software development for The Zooniverse, a community science website. Primarily involved in developing a Ruby GraphQL based statistical database of users and visitors to the website (github.com/zooniverse/zoo-stats-api-graphql).

Interdisciplinary Bioscience Doctoral Training Partnership Research Project (April-June 2017)

Sequencing *Portulaca oleracea* with Oxford Nanopore MinION technology. This plant performs both CAM and C4 photosynthesis. Extracted and analysed the activity of various phospho*enol*pyruvate carboxylases from C3 and CAM photosynthetic plants.

Interdisciplinary Bioscience Doctoral Training Partnership Research Project (January-March 2017)

Characterising nitrogen-fixation ability of *Pseudomonas stutzeri* and genetically modified *Pseudomonas fluorescens* Pf-5 and SBW25.

Research Assistant Position (June 2016-September 2016)

Comparing 1µL sea water samples before and after homogenisation to provide metagenomic data of the microheterogeneity of microbial life at such volumes.

Bachelor of Science: Honours (July 2015-June 2016)

Using the newly developed *in-situ* chemotaxis assay (ISCA) device to capture bacteria that display chemotaxis towards environmentally relevant compounds, including poly(ethylene terephthalate) degradation products and pesticides (diuron and atrazine). Then analysing the captured microbes using culture-independent methods (e.g. 16S rRNA gene amplicon and metagenomics) to provide the microbial population attracted by each individual chemoattractant and their metabolic potential.

ASPinS Research Subject SCIE3260 (February-June 2015)

Writing code in R to estimate individual false-discovery rates across NMR metabolomics data split into columns along the ppm. This allows the amelioration of the multiple testings problem, without relying on a uniform FDR assumption.

Research Assistant Position and Summer Research (January-July 2014)

Comparing the glycogen extracted through the traditional sucrose-gradient method to that extracted from formalin fixed samples.

Advanced study program in Science (ASPinS) Research Subject SCIE3011 (January-August 2013)

Testing the amount and structure of glycogen in mouse livers at different times after eating through an assay, size-exclusion chromatography and transmission electron microscopy of extracted glycogen.

Work experience program – UQ Institute for Molecular Bioscience (March, 2010)

Extracting DNA from mouse bones. Learning initial pipetting skills.

PUBLICATIONS

'A Rapid Extraction Method for Glycogen from Formalin-fixed Liver', Sullivan, M. A.; Li, S.; Aroney, S. T. N.; Deng, B.; Li, Cheng.; Roura, E.; Schulz, B. L.; Harcourt, B. E.; Forber, J. M.; Gilbert, R. G. *Carbohydrate Polymers* **2015**, *118*, 9-15.

'Changes in Glycogen Structure over Feeding Cycle Sheds New Light on Blood-Glucose Control', Sullivan, M. A.; Aroney, S. T. N.; Li, S.; Warren, F. J.; Suk Joo, J.; Sin Mak, K.; Stapleton, D. I.; Bell-Anderson, K. S.; Gilbert, R. G. *Biomacromolecules* **2014**, *15* (2), 660-665.

CONFERENCES

Sensory Transduction in Microorganisms, Ventura CA, USA (GRS) (11-12 January 2020)
Presentation: *Strategically navigating through the soil: the integrated sensory systems of the legume symbiont* Rhizobium leguminosarum.

Sensory Transduction in Microorganisms, Ventura CA, USA (GRC) (12-17 January 2020)
Poster: *Strategically navigating through the soil: the integrated sensory systems of the legume symbiont* Rhizobium leguminosarum.

TEACHING

University of Oxford

Department of Plant Sciences demonstrating 1st Year: *In vitro* enzyme kinetics	November 2019 (Michaelmas)
Department of Plant Sciences tutorials 2nd Year: Plants and People	October-November 2019 (Michaelmas)
Doctoral training centre demonstrating Programming module: Python	October 2019 (Michaelmas)
Doctoral training centre demonstrating Programming module: Python, C	October 2017 (Michaelmas)

University of Queensland

STAT1201 Workshop Science Learning Centre Tutoring: 1st Year Chemistry and Statistics	July-November 2015 (Semester 2)
STAT1201 Workshop Science Learning Centre Tutoring: 1st Year Chemistry and Statistics	February-June 2015 (Semester 1)
CHEM1100 PASS Science Learning Centre Tutoring: 1st Year Chemistry	July-November 2014 (Semester 2)
CHEM1090 Peer-assisted study sessions	February-June 2014 (Semester 1)

PUBLIC ENGAGEMENT

'Perspectives'	January 2020
Venue:	Oxford University Press
Target Audience:	English-learning High school students
Task:	Interviewed about Nemo's Garden on camera
'Inside Cells day'	5 December 2017
Venue:	Oxford University Museum of Natural History
Target Audience:	A-level High school students
Task:	Presentation about Fertilizers and the Environment

‘Super Science Saturday: People and Planet’	10 March 2018
Venue:	Oxford University Museum of Natural History
Target Audience:	Families
Task:	Organizing and running ‘Root-nodules’ stall

PERSONAL SKILLS

Analytical:	High level analytical skills developed in undergraduate university mathematics and science courses and extended through research projects.
Organised:	Highly organised approach to study and research has helped me to rapidly iterate through experiments and provide high quality teaching.
Technological:	Proficient in a wide range of computer programs and systems, including MS Word, Excel, R, Ruby, Python and Linux (bash).