

# SAMUEL ARONEY

I am an author of 3 high-impact journal articles in biochemistry and molecular biology. I have also constructed a 4000 line analytical dashboard<sup>1</sup> with underlying database during an internship with Zooniverse<sup>2</sup> while completing a DPhil on bacterial chemotaxis at the University of Oxford funded by a Clarendon Award.

I am currently searching for a Postdoctoral Researcher position in microbiology, molecular biology and genomics. I am also interested in data analysis and statistical programming.

## EDUCATION

- current  
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2016
- **DPhil Candidate, Microbiology**  
University of Oxford 📍 Oxford, United Kingdom
    - Role and regulation of chemotaxis and motility in *Rhizobium leguminosarum*
    - Interdisciplinary Bioscience Doctoral Training Partnership (BBSRC)

2016  
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2015

  - **B.S., Honours**  
Australian Centre for Ecogenomics 📍 University of Queensland
    - Investigating bacterial chemotaxis towards marine pollutants
    - 1st Class

2015  
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2012

  - **B.S., Biochemistry and Molecular Biology**  
University of Queensland 📍 Brisbane, Queensland, Australia

## PUBLICATIONS, POSTERS, AND TALKS

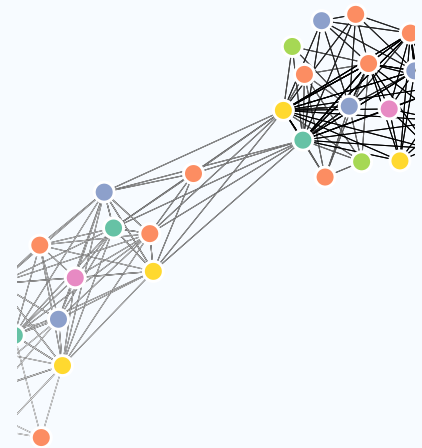
- 2020  
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2020
- **Strategically navigating through the soil: the integrated sensory systems of the legume symbiont *Rhizobium leguminosarum***  
Sensory Transduction in Microorganisms 📍 Ventura, CA
    - Presentation and Poster for GRC/GRS conference on sensory systems of microorganisms.

2020  
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2020

  - **Lifestyle adaptations of *Rhizobium* from rhizosphere to symbiosis<sup>3</sup>**  
Under-Review (copy available upon request.)
    - Authored with Rachel M. Wheatley, Brandon L. Ford, Li Li, Hayley E. Knights, Raphael Ledermann, Alison K. East, Vinoy K. Ramachandran and Philip S. Poole.

2015  
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2015

  - **A Rapid Extraction Method for Glycogen from Formalin-fixed Liver<sup>4</sup>**  
Carbohydrate Polymers
    - Authored with Mitchell A. Sullivan, Shihan Li, Bin Deng, Cheng Li, Eugeni Roura, Benjamin L Schulz, Brooke E Harcourt, Josephine M Forbes and Robert G Gilbert.



View this CV online with links at [AroneyS.github.io](https://AroneyS.github.io)

## CONTACT



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Aroney\_Samuel

[github.com/AroneyS](https://github.com/AroneyS)

[AroneyS.github.io](https://AroneyS.github.io)

[linkedin.com/in/samuel-aroney-a83a9a129](https://linkedin.com/in/samuel-aroney-a83a9a129)

## LANGUAGE SKILLS



Made with the R package [pagedown](https://www.rdocumentation.org/packages/pagedown/).

The source code is available [on github.com/AroneyS/cv](https://github.com/AroneyS/cv).

Last updated on 2020-07-25.

2014  
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2014

● **Changes in Glycogen Structure over Feeding Cycle Sheds New Light on Blood-Glucose Control<sup>5</sup>**

Biomacromolecules

- Authored with Mitchell A. Sullivan, Shihan Li, Frederick J. Warren, Jin Suk Joo, Ka Sin Mak, David I. Stapleton, Kim S. Bell-Anderson, and Robert G. Gilbert.



## RESEARCH EXPERIENCE

current  
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2017

● **Rhizobial Motility Researcher**

Philip Poole Laboratory

📍 Department of Plant Sciences, University of Oxford

- Determining the role of flagellar-based motility 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 phosphor-transferase system, on its swimming ability.

2020  
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2019

● **Graduate Safety Representative**

Department of Plant Sciences

📍 University of Oxford

- Departmental Graduate safety representative for Safety committee meetings and graduate student contact.
- This involved managing the Department's response to the COVID-19 crisis and determining the safest way to return to work.

2019  
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2019

● **Software Development Intern**

The Zooniverse

📍 University of Oxford

- Software development for The Zooniverse, a community science website.
- Primarily involved in developing a GraphQL based statistical database<sup>6</sup> of users and visitors to the website in Ruby, Bash and Python.

2017  
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2017

● **Synthetic Biology Researcher**

Philip Poole Laboratory

📍 Department of Plant Sciences, University of Oxford

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

2017  
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2017

● **Plant Biochemistry Researcher**

Andrew Smith Laboratory

📍 Department of Plant Sciences, University of Oxford

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

- 2016  
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2015

- Metagenomics Researcher**  
 Australian Centre for Ecogenomics
 

University of Queensland

    - 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.
- 2016  
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2016

- Graduate Research Assistant**  
 Australian Centre for Ecogenomics
 

University of Queensland

    - Comparing 1<U+00B5>L sea water samples before and after homogenisation to provide metagenomic data of the microheterogeneity of microbial life at such volumes.
- 2015  
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2015

- Undergraduate Researcher**  
 Centre for Advanced Imaging
 

University of Queensland

    - 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.
- 2014  
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2014

- Research Assistant**  
 Queensland Alliance for Agriculture and Food Innovation
 

University of Queensland

    - Comparing the glycogen extracted through the traditional sucrose-gradient method to that extracted from formalin fixed samples.
- 2013  
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2013

- Undergraduate Researcher**  
 Queensland Alliance for Agriculture and Food Innovation
 

University of Queensland

    - 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.



## TEACHING EXPERIENCE

- 2020  
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2019

- In vitro* enzyme kinetics**  
 Department of Plant Sciences
 

University of Oxford

    - Demonstrating for *In vitro* enzyme kinetics practical focussing on the kinetics of alcohol dehydrogenase.
- 2019  
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2017

- Programming for Life Scientists**  
 Doctoral Training Centre
 

University of Oxford

    - Demonstrating for the programming module using the languages Python and C.

I greatly enjoy the experience of discovering where a student is and finding a way to guide them to their own epiphany about a topic.

- 2019  
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2019

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**Plants and People**  
 Department of Plant Sciences

📍 University of Oxford

  - Tutorials about the role of motility and chemotaxis in the soil and in the rhizobium-legume symbiosis.
  
- 2016  
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2015

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**Analysis of Scientific Data**  
 Faculty of Science

📍 University of Queensland

  - Demonstrating for Analysis of Scientific Data (STAT1201), focussing on experimental design, data modelling and statistics.
  
- 2015  
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2014

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**Inorganic, physical and organic chemistry**  
 School of Chemistry and Molecular Biology

📍 University of Queensland

  - 1st Year inorganic, physical and organic chemistry (CHEM1090/CHEM1100) peer-assisted study sessions.
  
- 2015  
|  
2014

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**Chemistry and Statistics tutoring**  
 Faculty of Science

📍 University of Queensland

  - Drop-in tutoring at the Science Learning Centre for 1st Year Chemistry and Statistics.



## AWARDS

- 2020  
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2016

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**Brasenose Oxford–Australia Clarendon Scholarship**  
 University of Oxford

📍 Oxford, United Kingdom
  
- 2020  
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2020

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**Brasenose Studentship Fund**  
 University of Oxford

📍 Oxford, United Kingdom
  
- 2020  
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2020

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**Vice-Chancellor’s Education Award**  
 University of Oxford

📍 Oxford, United Kingdom

  - Programming for Life Scientists received the award particularly with its focus on giving a highly diverse cohort with mixed experience and backgrounds a solid foundation to begin doctoral research science.
  
- 2016  
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2015

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**UQ Honours Scholarship**  
 University of Queensland

📍 Brisbane, Queensland, Australia
  
- 2015  
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2012

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**UQ Excellence Scholarship**  
 University of Queensland

📍 Brisbane, Queensland, Australia
  
- 2014  
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2013

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**UQ Summer Research Scholarship**  
 University of Queensland

📍 Brisbane, Queensland, Australia
  
- 2013  
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2012

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**UQ Summer Research Scholarship**  
 University of Queensland

📍 Brisbane, Queensland, Australia



## PUBLIC ENGAGEMENT

2020  
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2020



### Perspectives

Oxford University Press

📍 Oxford, United Kingdom

- Interviewed about the underwater agricultural research centre, Nemo's Garden, for a series of videos on Perspectives.

2018  
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2018



### Super Science Saturday: People and Planet

Museum of Natural History

📍 Oxford, United Kingdom

- Organizing and running 'Root-nodules' stall for families.

2017  
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2017



### Inside Cells Day

Museum of Natural History

📍 Oxford, United Kingdom

- Presentation about 'Fertilizers and the Environment' to A-level High School Students.

I have found the engaging the public with my science has been both rewarding and important for improving public perceptions of science.



## LINKS

- 1: <https://github.com/zooniverse/zoo-stats-api-graphql>
- 2: <https://www.zooniverse.org/>
- 3: <https://doi.org/10.1101/2020.05.07.082560>
- 4: <https://doi.org/10.1016/j.carbpol.2014.11.005>
- 5: <https://doi.org/10.1021/bm401714v>
- 6: <https://github.com/zooniverse/zoo-stats-api-graphql>