

MATTHEW G. JOHNSTON

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EDUCATION

- Oct 2016 – Current **Rotation PhD, *Faulkner Group, Crop Genetics, John Innes Centre***
PhD Title – Composition of and interactions at plasmodesmata
Three rotations in plant physiology, plant defence and biochemistry
- Oct 2013 – Jul 2016 **Class I, Natural Sciences, BA, *Christ's College, University of Cambridge***
Rosabel Spencer-Thomas Prize in Natural Sciences (2016)
Exhibition Prize (2014)
2015/16 – Plant Sciences: including a 2-term research
2014/15 – Biochemistry, Chemistry B, Plant and Microbial Sciences
2013/14 – Biology of Cells, Chemistry, Mathematics, Physiology of Organisms
- Sept 2011 – Jul 2013 **A* in A2 Biology, Chemistry, Further Mathematics, Mathematics, Physics, *The Judd School, Kent***

SKILLS

- Research Expertise and Analytical Skills** I have extensive research experience from 3 eight to ten-week internships before my PhD, all of which I won funding for. I was accepted onto the highly competitive flagship rotation PhD programme at the world-leading John Innes Centre, Norwich.
This is underscored by a strong presentation and publication record, including a first-author PNAS paper (under review) from my PhD and contributing to several publications from internships and collaborative efforts.
- Statistical Methods (R)** Statistics is a fascinating topic, as such I have become the go-to lab member for statistical questions. This has led to co-authorship for advanced analysis of plant defence data (linear mixed effect models) and developing statistical frameworks for the lab to analyse cell-to-cell movement data (Poisson general linear models). I use R extensively for data analysis and visualisation (Tidyverse, ggplot2).
- Big Data Analysis (Command line, R)** The lab generates large amounts of next generation sequencing data, which I have aided the analysis of, as well as my own genome data. This involved using the latest bioinformatic tools on the JIC cluster through command line and downstream analysis and visualisation of results in R.
- Coding (Python, Github)** I have been webmaster for several organisations: Cambridge University Biological Society (2015/16), United Kingdom Biology Competitions (2019 – Present), Norwich-Cambridge Science Symposium (2020).
The UKBC website is written in Python, in the Django framework using Postgres databases, handling 30,000 students sitting an exam in one week.
- Teamwork** Research moves forward quicker as a team, as such I have worked collaboratively within the lab group and with other groups to lend expertise. This has led to me aiding colleagues writing scripts for image analysis (ImageJ, R), and also in the wet-lab, where as a senior student I am on-hand for other PhD colleagues.
- Communication** I have communicated science at all levels. Beyond written academic publications, I have been selected to present my work orally at international conferences. At a non-technical level, I have written lay articles for the institute blog and the *Biological Sciences Review* for A-level students.
I tutored disadvantaged primary school children as part of the Brilliant Club (2016/17) and liaised with faculty as a student representative to the School of the Biological Sciences (2015). I have also held positions of leadership as a CCF RAF sergeant (2013) and Gold DofE leader (2013).

PUBLICATIONS
