

MATTHEW G. JOHNSTON

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EDUCATION

Oct 2016 – Current	Rotation PhD, <i>Faulkner Group, Crop Genetics, John Innes Centre</i> 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, <i>Christ's College, University of Cambridge</i> 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, <i>The Judd School, Kent</i>

SKILLS

Research Expertise and Analytical Skills	I have extensive research experience from 3 eight to ten-week internships before my PhD, which all attracted funding, as well as being accepted onto the competitive 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), as well as developing statistical frameworks for the lab to analysis 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 NGS 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	Beyond academic works and talks, I have tutored disadvantaged primary school children face-to-face 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). As well as, writing lay articles of science for the institute blog and <i>the Biological Sciences Review</i> for A-level students.

PUBLICATIONS