Aoife Hughes, MBCS, B.Sc., Ph.D.

✉ ahughes@turing.ac.uk   🐦 @AoifeHughes__

🌐 https://aoifehughes.github.io/

in https://www.linkedin.com/in/aoife-hughes-96288b225/

Statement

As a scientist I thrive off the challenge of the unknown. I love working in new fields and using the breadth of my experience to provide insights into novel problems.

Previously I have worked in the fields of computer vision, transcriptiomics, genomics, mathematical modelling and data analytics. I am also passionate about mentoring others.

Employment History

2022 – ····	**Data Scientist** Research Engineering, The Alan Turing Institute
	Journal Editor Journal of Open Source Software (JOSS)
2019 – 2022	**Ph.D Tutor** The Brilliant Club Charity.
2017 – 2018	**X-ray Image Analyst** Doonan Lab, Aberystwyth University.
2016 – 2017	**Junior Scientist** National Plant Phenomics Centre.
2015 – 2018	**Teaching Assistant** Computer Science Department, Aberystwyth University.
2013 – 2014	**Systems Developer** Belfast Metropolitan College, Northern Ireland, UK.
	Gymnastics Coach Salto National Gymnastics Centre, Northern Ireland, UK.

Education

2018 – 2022	**Ph.D., John Innes Centre** Morris Group Thesis title: *Computational modelling of information transfer between cells* (aimed completion by September 2022)
2014 – 2018	**B.Sc. Computer Science, Aberystwyth University**. Dissertation title: *Modelling the effects of domestication in Wheat through novel computer vision techniques.*
2012 – 2014	**Diploma in Software Engineering, Belfast Metropolitan College**

Research Publications

Journal Articles

1. Tomkins, M., **Hughes**, **A.**, & Morris, R. J. (2021). An Update on Passive Transport in and out of Plant Cells. *Plant Physiology*, (kiab406). 🔗 doi:10.1093/plphys/kiab406

2. **Hughes, A.**, Faulkner, C., Morris, R. J., & Tomkins, M. (2021). Intercellular Communication as a Series of Narrow Escape Problems. *IEEE Transactions on Molecular, Biological and Multi-Scale Communications*, 7(2), 89–93. 🔗 doi:10.1109/TMBMC.2021.3083719

3 Ohtsu, M., Jennings, J., Johnston, M., Liu, X., **Hughes, A.**, Stark, K., … Faulkner, C. (2021). Colletotrichum higginsianum effectors exhibit cell to cell hypermobility in plant tissues and modulate intercellular connectivity amongst a variety of cellular processes, 2021.01.13.426415. 🔗 doi:10.1101/2021.01.13.426415

4 **Hughes, A.**, Morris, R. J., & Tomkins, M. (2020). PyEscape: A narrow-escape problem simulation implementation. *Journal of Open Source Software*.

5 **Hughes, A.**, Fradgley, N., Oliveira, H., Corke, F., Cockram, J., Doonan, J. H., & Nibau, C. (2019). Grain depth increases during early domestication in small grain cereals. *The Plant Journal*.

6 Cook, F., **Hughes, A.**, Nibau, C., Orman-Ligeza, B., Schatlowski, N., Uauy, C., & Trafford, K. (2018). Barley lys3 mutants are unique amongst shrunken-endosperm mutants in having abnormally large embryos. *Journal of Cereal Science, 82*, 16–24.

7 **Hughes, A.**, Askew, K., Scotson, C. P., Williams, K., Sauze, C., Corke, F., … Nibau, C. (2017). Non-Destructive, High-Content Analysis of Wheat Grain Traits Using X-Ray Micro Computed Tomography. *Plant Methods, 13*(1). 🔗 doi:10.1186/s13007-017-0229-8

Skills

Languages	Strong reading, writing, and speaking competencies for English.
Coding	Python, R, C/C++, C#, MATLAB, BASH, Java, PHP, SQL, LaTeX, Perl, Lisp, Ruby, Haskell.
Software Engineering	Mobile development (iOS/Android), Game development (Unity, SDL, SFML), Computer vision, Machine learning, Desktop applications, Git, Open source
Databases	MySQL, PostgreSQL, SQLite.
Web Dev	Html, CSS, JavaScript, Django, Flask.
Misc.	Academic research, teaching, training, consultation, data visualisation, LaTeX typesetting and publishing.

Miscellaneous Experience

Awards and Achievements

2022	**DigiEduHack Climate Change Contest**, Finalist.
2019	**UK Open Source Award**, 1st Place.
2017	**Genetics Society Research Grant**, Recipient.
2016	**UK-RAS Field Robotics Contest**, 2nd Place.
2014	**Aberystwyth Excellence Scholarship**, Recipient.

Research Talks

2022	**International Conference on Arabidopsis Research**. Research presentation.
	Mendel Early Career Symposium. Poster presentation.
	Pint of Science. Public engagement talk.
2018	**Genetics Society**. Grant outcome presentation.
2017	**FOSDEM**. Main stage talk.
	British Computer Society. Inter-discipline Talk.