

LAURA NEILL

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RESEARCH EXPERIENCE

Postdoctoral Research Scientist, Department of Plant Sciences, University of Oxford (2022-2025)

- Investigating genes regulating differentiation, development and photosynthesis in flower development
- Cloning and functional characterisation of novel genes regulating flower development
- Analysis of gene and protein expression during development in mutant and wild-type plants
- Identification and assessment of novel protein function through biochemical methods
- Successful fulfilment of research objectives within grant timelines
- Publishing of scientific papers in peer-reviewed journals to support the research programme
- Regular attendance and presenting of results at national and international meetings to publicise and promote the research

PhD Research, Department of Biology, University of Nottingham (2018-2022)

- Using molecular and biochemical techniques to investigate the role of pectin esterase iso-enzymes, active in cell wall-degradation, during tomato fruit ripening and softening
- Characterisation of wild-type, mutant and transgenic plants, to assess gene function
- Identification and patenting of a gene involved in tomato fruit-softening
- Gaining expertise in a broad range of molecular and biochemical techniques
- Collaborated with ZENECA Plant Science to source GM samples for analysis

RELEVANT RESEARCH SKILLS

- Gene cloning and characterisation e.g. generation of gene libraries, screening, and sequencing of genes
- Analysis of gene expression e.g. microarray generation and analysis, southern northern blots in situ hybridisation
- Use of bioinformatics packages to assist in identification of putative gene function for novel genes e.g. transcription factors
- Assessment of protein function using biochemical methods e.g. hybrid systems, enzyme assays
- Generation and analysis of transgenic plants e.g. via ELISA, western blot

AWARDS

Mabel Pannel Postgraduate Scholarship for outstanding progress in research

NERC PhD Studentship Award (£50000) 2018

Nuffield Foundation Undergraduate Studentship Award (£5000) 2014

EDUCATION

University of Nottingham (2018-2022)

PhD Biology: Organisation and expression of pectin esterase isoenzymes in tomato

University of Oxford (2014-2018)

BA (Hons) Biological Sciences 2.1

Tudor Grange School, Solihull (2006-2013)

A Levels in Chemistry (A), Physics (B) & Biology (A); 9 GCSEs

TEACHING EXPERIENCE

Tutor, University of Oxford and Nottingham University (2018-2025)

- Delivering practical and tutorial sessions for courses in Molecular Biology and Developmental Biology for groups of up to 30 undergraduate students
- Responsible for prior-assessment of curriculum, development of suitable resources in collaboration with other presenters, organisation and delivery of sessions and coursework marking and feedback

Mentor/Supervisor, University of Oxford (2022-2025)

- Training junior lab members in practical techniques to ensure competence and personal safety

Demonstrator, The Open University (2022)

- Level 2 course, Plant Physiology Summer School
- Assisting with the delivery of this pre-designed practical course, helping students to run their experiments and analyse the results

ADDITIONAL RELEVANT EXPERIENCE

Assistant Information Officer, ICI Agrochemicals (2015-2014)

- Working as part of a team of four to provide a scientific and commercial information service to more than 200 scientists at an international research centre
- Assisting in the training of scientists in the use of information retrieval tools

Laboratory Assistant, British Gas plc (2013-2014)

- Temporary gap year position, assisting with chemical sample analysis from research pipeline

ADDITIONAL SKILLS & COURSES

Teaching Skills (Level 1) - introduction to teaching and lecturing methods (2 day course; Oxford University, 2018);
Supervising DPhil students (Oxford University, 2023)

UK GRAD School (Nottingham, 2021) – a 4 day residential course developing communication, team working, leadership, commercial awareness and problem solving skills through experiential activities with other post-graduate researchers

Microsoft Office: daily use of Microsoft Word (thesis and publications), PowerPoint (conference presentations), Excel (data analysis); FrontPage (lab web design)

MEMBERSHIP OF PROFESSIONAL SOCIETIES

International Society for Plant Molecular Biology 2017-present
Biochemical Society 2018-present

REFEREES

Prof David Thomas, Dept. Plant Sciences, Oxford University, 01865 673124 david.thomas@plants.ox.ac.uk

Prof John Townsend, Nottingham University, 01509 443675, john.townsend@notts.ac.uk

PUBLICATIONS

Neill LN, Matthews S, Thomas J. 2024 Greenfinger, a novel transcriptional regulator of flower development. *Plant Cell*, 20:934-939

Neill LN, Matthews S, Thomas J. 2024 Mutations affecting flower development. In SEB Symposium 62: Control of Plant Development: Genes & Signals Eds. James G. and Freer, D., The Company of Biologists Ltd., Cambridge

Neill LN, Thomas JA. 2024 Molecular analysis of greenfinger *J Exp Bot* 55 Suppl pp.13

Neill LN, Thomas J. 2023 Tansley review # 96: Molecular genetics of flower development. *New Phytologist* 139:533-553

Randall R, Neill LN, Matthews S, Thomas J. 2023 Swirl, a mutation disrupting flower differentiation. *J Exp Bot* 57 Suppl pp. 27

Randall R, Neill LN, Matthews S, Thomas J. 2023 Swirl, a mutation disrupting flower differentiation. *Plant Cell* 20:920-928

Thomas J, Neill LN, Matthews S. 2023. Control of differentiation in flower development. *Proc Royal Soc London Ser B* 450:63-67

Thomas J, Neill LN. 2022 Greenfinger gene action in flower development. *J Cell Biochem Suppl* 31A pp.446

Dray B, Townsend J, Neill LN., Zeneca Ltd. 2020 DNA, DNA constructs, cells and plants derived therefrom. US6659121

Dray B, Townsend J, Neill LN., Imperial Chemical Industries, UK 2020 Cloning of pectin esterase cDNA of tomato for altering ripening properties of fruits. WO200313212

Graham, P, Neill L, Richards F, Townsend J. 2020 Use of antisense RNA technology to study pectin degradation in tomato fruit. *New Zealand J Hort Crop Sci* 30:119-124

Neill LN, Clive CR, Dray B, Graham P, Townsend J. 2020 Molecular characterisation of cDNA clones representing pectin esterase isoenzymes from tomato. *Plant Molecular Biology* 25: 313-318

Neill LN. 2018 Organisation and expression of pectin esterase isoenzymes in tomato. PhD thesis, Nottingham University

CONFERENCE PAPERS

Neill LN. Mutations affecting flower development. SEB Cell Symposium 2012, University of Durham, 24th - 26th August 2022 (INVITED)

Neill LN. Molecular characterisation of cDNA clones representing pectin esterase isoenzymes from tomato. Association of Applied Biologists, Royal Botanic Gardens of Edinburgh, 20th Oct 2021