



Dr Sacha Przewieslik-Allen
BSc, PhD(Bristol)

Senior Research Associate

Area of research

Senior research associate in Cereal Genetics

Life Sciences Building,
24 Tyndall Avenue, Bristol BS8 1TQ

[\(See a map\)](#)

+44 (0) 117 39 41449

a.allen@bristol.ac.uk

Summary

Biography

I completed my PhD in Plant Reproductive and Molecular Biology at the University of Bristol and Royal Botanic Gardens, Kew. The title of my thesis was 'Identification of genes involved in self-incompatibility (SI) and pollen-pistil interactions in *Senecio squalidus* L.(Asteraceae)'. Following this I moved fields into cereal crop research and worked on the BBSRC funded projects 'Large scale mapping of wheat transcripts and simultaneously defining the A B and D genome contribution to the hexaploid transcriptome' (BB/F007523/1), 'Mining the allohexaploid wheat genome for useful sequence polymorphisms' (BB/G012865/1) and 'Enhancing diversity in UK wheat through a public sector pre-breeding programme' (BB/1002278/1). In 2014 I was awarded the Monogram Early Career Excellence Award for outstanding contributions to the field of cereal and grass research in the UK and I now sit on the Monogram steering committee.

I am currently responsible for coordinating the genotyping theme of the Wheat Improvement Strategic Programme (WISP), under the leadership of Prof. Keith Edwards, for genotyping and data management for the Indo-UK centre for Improvement of Nitrogen Use Efficiency in Wheat (INEW) and two funded International Wheat Yield Partnership (IWYP) awards. I am also programme manager for the recently funded BBSRC strategic Lola: Releasing natural variation in bread wheat by modulating meiotic crossovers.

Activities / Findings

I am a senior research associate in Cereal Genetics at the University of Bristol with expertise in next generation sequencing and genotyping development. I have contributed to the development of SNP-based molecular markers and high-throughput platforms that has resulted in significant changes in the way that the global wheat research and breeding community utilises marker technology. I am currently using the data generated from these platforms in a number of projects including studying the evolutionary history of the wheat genome, identifying associations between traits and markers and characterising novel introgressions in pre-breeding germplasm.

Memberships





Organisations

[School of Biological Sciences](#)

Labs

- [Cereal Genomics](#)

Links

-  [IWYP website](#)
-  [WISP website](#)
-  [Bristol's online wheat sequence and SNP database](#)
-  [INEW website](#)

Recent publications

- Przewieslik-Allen, AM, BurrIDGE, AJ, Wilkinson, PA, Winfield, MO, Shaw, DS, McAusland, L, King, J, King, IP, Edwards, KJ & Barker, GL, 2019, '[Developing a high-throughput SNP-based marker system to facilitate the introgression of traits from Aegilops species into bread wheat \(Triticum aestivum\)](#)'. *Frontiers in Plant Science*, vol 9.
- Pennacchi, JP, Carmo■Silva, E, Andralojc, PJ, Lawson, T, Przewieslik-Allen, S, Raines, CA & Parry, M, 2019, '[Stability of wheat grain yields over three field seasons in the UK](#)'. *Food and Energy Security*, vol 8.
- BurrIDGE, A, Wilkinson, P, Winfield, M, Barker, G, Przewieslik-Allen, S, Coghill, J, Waterfall, C & Edwards, K, 2018, '[Conversion of array-based single nucleotide polymorphic markers for use in targeted genotyping by sequencing in hexaploid wheat \(Triticum aestivum\)](#)'. *Plant Biotechnology Journal*, vol 16., pp. 867-876
- Allen, AM, Winfield, MO, BurrIDGE, AJ, Downie, RC, Benbow, HL, Barker, GLA, Wilkinson, PA, Coghill, JA, Waterfall, CM, Davassi, A, Scopes, G, Pirani, A, Webster, T, Brew, F, Bloor, C, Griffiths, S, Bentley, A, Alda, M, Jack, P, Phillips, AL & Edwards, KJ, 2017, '[Characterisation of a Wheat Breeders' Array suitable for high throughput SNP genotyping of global accessions of hexaploid bread wheat \(Triticum aestivum\)](#)'. *Plant Biotechnology Journal*, vol 15., pp. 390?401
- Millet, E, Steffenson, B, Prins, R, Sela, H, Przewieslik-Allen, S & Pretorius, Z, 2017, '[Genome Targeted Introgression of Resistance to African Stem Rust from Aegilops sharonensis into Bread Wheat](#)'. *The Plant Genome*, vol 10., pp. 1-11
- BurrIDGE, AJ, Winfield, MO, Allen, AM, Wilkinson, PA, Barker, GL, Coghill, J, Waterfall, C & Edwards, KJ, 2017, '[High-Density SNP Genotyping Array for Hexaploid Wheat and Its Relatives](#)'. in: Prem Bhalla, Mohan Singh (eds) *Wheat Biotechnology: Methods and Protocols*. Humana Press, pp. 293-306
- Clarke, CK, Gregory, PJ, Lukac, M, BurrIDGE, AJ, Allen, AM, Edwards, KJ & Gooding, MJ, 2017, '[Quantifying rooting at depth in a wheat doubled haploid population with introgression from wild emmer](#)'. *Annals of Botany*, vol 120., pp. 457-470
- King, J, Grewal, S, Yang, Hubbart, S, Scholefield, D, Ashling, S, Edwards, K, Przewieslik-Allen, S, BurrIDGE, A, Bloor, C, Davassi, A, Silva, Gd, Chalmers, K & King, I, 2017, '[A step change in the transfer of interspecific variation into wheat from Amblyopyrum muticum](#)'. *Plant Biotechnology Journal*, vol 15., pp. 217?226
- Wilkinson, PA, Winfield, MO, Barker, GLA, Tyrrell, S, Bian, X, Przewieslik-Allen, S, BurrIDGE, A, Coghill, J, Waterfall, C, Caccamo, M, Davey, R & Edwards, K, 2016, '[CerealsDB 3.0: Expansion of resources and data integration](#)'. *BMC Bioinformatics*, vol 17.
- Winfield, M, Przewieslik-Allen, S, Barker, G, Edwards, K, BurrIDGE, A, Benbow, H, Wilkinson, P, Coghill, J, Waterfall, C, Davassi, A, Scopes, G, Pirani, A, Webster, T, Brew, F, Bloor, C, King, J, West, C, Griffiths, S, King, I & Bentley, A, 2015, '[High-density SNP genotyping array for hexaploid wheat and its secondary and tertiary gene pool.](#)'. *Plant Biotechnology Journal*.

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