

Jenny C. Mortimer

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PROFESSIONAL PREPARATION:

University of Bristol, UK	Biological Sciences	BSc(Hons)	2002
University of Exeter, UK	Bioinformatics	MRes	2003
University of Cambridge, UK	Plant Physiology	PhD	2008
University of Cambridge, UK	Plant Biochemistry/Bioenergy	Postdoc	2007-2013

APPOINTMENTS:

2025-	Professor, School of Agriculture, Food and Wine, Waite Research Institute, University of Adelaide (now Adelaide University, AU), Australia
2024 -	Deputy Director (interim) of the Waite Research Institute (WRI), AU
2021-24	Associate Professor, School of Agriculture, Food and Wine, WRI, AU
2021 -	Affiliate Staff Scientist, Environmental Genomics and Systems Biology Division, Biosciences Area, Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA, USA
2020	Adjunct A/Prof, University of Adelaide, Australia
2019	Acting VP, Life Cycle, Economics & Agronomy Division, Joint BioEnergy Institute (JBEI)
2018-20	Career Staff Scientist, LBNL
2016-20	Deputy Vice-President of the Feedstocks Division, JBEI
2014-	Director of Plant Systems Biology, JBEI
2014-2018	Career Research Scientist, Biosciences Area, LBNL
2013-2014	FPR research fellow, RIKEN Yokohama, Japan.

SELECTED RECENT PUBLICATIONS (from more than 100 peer-reviewed publications)

[#]= joint first authors; * = corresponding author; h-index = 46.

For full list, see google scholar: <https://tinyurl.com/ynzhe7k2>

- Priya S[#], Lin HH[#], Menon S, Downs N, Andeer PF, Tian Y, Kosina SM, Ding Y, Eudes A, Northen T, Mukhopadhyay A*, **Mortimer JC*** (2025) Engineered lignin composition in *Brachypodium distachyon* modulates the root-associated microbiome. bioRxiv doi:10.1101/2025.07.30.667798
- Gill AR, Miller TK, Wijeweera S, Herrero E, Massa GD, **Mortimer JC**, Webb AAR, Millar AH, Gilliam M (2025) Turbocharging fundamental science translation through controlled environment agriculture, *Trends in Plant Science*, in press, <https://doi.10.1016/j.tplants.2025.08.014>
- Ofoedu CE, Bozkurt H*, **Mortimer JC*** (2025). Towards sustainable food security: Exploring the potential of duckweed (Lemnaceae) in diversifying food systems. *Trends in Food Science & Technology*, 105073.
- Angel Indibi A, Cao P, Brandizzi F, **Mortimer JC**, Swaminathan K, Tsai CJ, Hamberger B (2025) Through the lens of bioenergy crops: advances, bottlenecks, and promises of plant engineering. *Plant J*, e70294.
- Zhang Y, Sharma D, Liang Y, Downs N, Dolman F, Thorne K, Black IM, Pereira JH, Adams P, Scheller HV, O'Neill M, Urbanowicz B*, **Mortimer JC*** (2024). A putative rhamnogalacturonan-II CMP- β -Kdo transferase identified using CRISPR/Cas9 gene edited callus to circumvent embryo lethality. *Plant Physiology* kiae259
- Tian Y, Gao Y, Turumtay H, Akyuz Turumtay E, Chai YN, Choudhary H, Park JH, Wu CY, De Ben CM, Dalton J, Louie KB, Harwood T, Chin D, Vuu KM, Bowen BP, Shih PM, Baidoo EEK, Northen TR, Simmons BA, Hutmacher R, Atim J, Putnam DH, Scown CD, **Mortimer JC**, Scheller HV, Eudes A (2024) Engineered reduction of *S*-adenosylmethionine alters lignin in sorghum. *Biotechnology for Biofuels and Bioproducts*. 17:128

- Akyuz Turumtay E, Turumtay H, Tian Y, Lin CY, Chai YN, Louie KB, Chen Y, Lipzen A, Harwood T, Satish Kumar K, Bowen BP, Wang Q, Mansfield SD, Blow MJ, Petzold CJ, Northen TR, **Mortimer JC**, Scheller HV, Eudes A (2024) Expression in poplar of dehydroshikimate dehydratase induces transcriptional and metabolic changes in the phenylpropanoid pathway. *J Ex Bot*, eae251
- Lin HH, Torres N, Adam CAs, Andeer PF, Owens TK, Zhalnina Z, Jabusch LK, Carlson HK, Kuehl JV, Deutschbauer AM, Northen TR, Glass NL, **Mortimer JC*** (2024). Impact of inoculation practices on microbiota assembly and community stability in a fabricated ecosystem. *Phyobiomes Journal* 8:155-167
- Edwards RA, Ng XY, **Tucker MR***, **Mortimer JC** (2024) Plant synthetic biology as a tool to help eliminate hidden hunger. *Current Opin. Biotech.*88:103168
- Morgan MF, Diab JD, **Gilliham M***, **Mortimer JC*** (2024). Green horizons: how plant synthetic biology can enable space exploration and drive on Earth sustainability. *Current Opin. Biotech.* 86: 103069
- Jiao Y, Nigam D., Barry K, Daum C, Yoshinaga Y, Lipzen A, Khan A, Parasa S.-P, Wei S, Lu Z, Tello-Ruiz MK, Dhiman P, Burow G, Hayes C, Chen J, Brandizzi F, **Mortimer JC***, Ware D* and Xin Z* (2024), A large sequenced mutant library – valuable reverse genetic resource that covers 98% of sorghum genes. *Plant J*, 117: 1543-1557
- Gao Y, Lipton AS, Munson CR, Ma Y, Johnson K, Murray DT, Scheller HV, **Mortimer JC*** (2023). Elongated galactan side-chains mediate cellulose-pectin interactions in engineered Arabidopsis secondary cell walls. *Plant J*. 115:528-545.
- Lankiewicz TS, Chowdry H, ...**Mortimer JC**, Ralph J, Simmons BA, Singer SW, O'Malley MA (2023). Lignin deconstruction by anaerobic fungi. *Nature Microbio.*, 8:596–610
- **Mortimer JC***, Gilliham M* (2022). SpaceHort: Redesigning Plants to Support Space Exploration and On-Earth Sustainability. *Current Opin. Biotech.* 73: 246-252.
- Silva TN, Thomas JB, Dahlberg J, Rhee SY*, **Mortimer JC*** (2022) Progress and challenges in sorghum biotechnology, a multi-purpose feedstock for the bioeconomy. *J. Exp Bot.* 73:646-664
- Demirer G, Silva T, Jackson C, Thomas J, Ehrhardt E, Rhee S, **Mortimer JC***, Landry M (2021). Nanotechnology to advance CRISPR-Cas genetic engineering of plants. *Nature Nanotech.* 16:243-250.
- Gao Y, Lipton AS, Wittmer Y, Murray DT, **Mortimer JC*** (2020) A grass-specific cellulose–xylan interaction dominates in sorghum secondary cell walls. *Nature Communications*, 11:6081
- Sechet J, Htwe S, Urbanowicz B, O'Neill M, **Mortimer JC*** (2018) Suppressing Arabidopsis GGLT 1 affects growth by reducing the L-galactose content and borate cross-linking of rhamnogalacturonan II. *Plant J* 96:1036-1050
- Ishikawa T, Fang L, Rennie E, Sechet J, Yan J, Jing B, Moore W, Cahoon EB, Scheller HV, Kawai-Yamada M, **Mortimer JC*** (2018). GLUCOSAMINE INOSITOLPHOSPHORYLCERAMIDE TRANSFERASE1 (GINT1) is a GlcNAc-containing glycosylinositol phosphorylceramide glycosyltransferase. *Plant Physiology*. 177 (3), 938-952
- Simmons TJ#, **Mortimer JC#**, Berandinelli O, Pöppler A-C, Brown SP, Azevedo E, Dupree R, Dupree P (2017). Folding of xylan onto cellulose fibrils in plant cell walls revealed by solid-state NMR. *Nature Comm.* 7: 13902.
- Fang L, Ishikawa T, Rennie E, Lao J, Baidoo EEK, Xu J, Demura T, Kawai-Yamada M, Scheller HV, **Mortimer JC*** (2016) Loss of a sphingolipid-specific mannosyltransferase induces plant immune responses and reduces crystalline cellulose content in Arabidopsis. *Plant Cell*, 28: 2991-3004.
- **Mortimer JC**, Faria-Blanc N, Yu X, Tryfona T, Sorieul M, Ng YZ, Zhang Z, Stott K, Anders N, Dupree P (2015) An unusual xylan in Arabidopsis primary cell walls is synthesised by GUX3, IRX9L, IRX10L and IRX14. *Plant J*, 83:413-426

Additional Example Outputs: 1 awarded patent; 1 co-authored textbook (freely available via NCBI through Cold Spring Harbor sponsorship)

AWARDS AND HONOURS (Selected)

- Jan Anderson Award, Australian Society for Plant Sciences (2024)
- Bruce Stone Award for Excellence in Plant Polysaccharide Biochemistry (2024)
- Top Talent Appointment, University of Adelaide (2021-2024)
- World Economic Forum (WEF) Young Scientist (2016-2017)

Current Research Funding

- Joint BioEnergy Institute (JBEI, Director of Plant Systems Biology, 2015-2027); US Department of Energy (DoE)
- Microbial Community Analysis & Functional Evaluation in Soils Scientific Focus Area (mCAFES, Science Advisory Committee, 2019-2026); DoE
- ARC Centre of Excellence in Plants for Space (P4S, Node leader, 2023-2030)
- ARC Training Centre in Future Crops (Executive Committee, 2022-2026)
- ARC Research Hub in Plants to Replace Fossil Carbon (Executive Committee, 2025-2030)
- BPA Plant Systems Biology Australia, Adelaide node (Steering Committee, 2025-2029)
- AEA Ignite Advancing Duckweed Feedstock (2025-2026)

Recent Outreach and Education (Selected)

- Television (Australia, 2023 –) ABC news (various), ABC Behind the News (children’s television show), Ch44 Episode of “Be Curious”
- Print and online media (UK, USA, Australia, 2010 onwards, various including ABC, Advertiser)
- Podcasts (2021-) including Gardeners of the Galazy, EvokeAg x Food Futurists, Plant Kingdom
- Science in the Pub/Science in the Outback Pub, Adelaide Fringe Festival, National Science Week and other events open to the public
- Talks and panel events for student and public societies (~5 per year)
- School visits (kindergarten – year 12) ~10 per year
- Teaching into the iCLEM high-school course at JBEI (2015 -)
- Hosting industry, school, government and general public groups to visit the Waite campus

Select Editorial and Service Activities:

- Handling Editor, Plant Journal (2024-)
- Plant Cell Physiology, Handling Editor (2020-2025), Reviews Editor (2026-)
- AU Research Integrity advisor (2022-)
- ASPB Women in Plant Biology Committee (2020-23)