

EMILY MAY ARMSTRONG

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PhD student specialising in epigenetic regulation of tissue specific gene expression under abiotic stress in plants. Dedicated, collaborative, ambitious, with a proven track record in high-impact research output.

EDUCATION

University of Glasgow

- **PhD** in Medical, Veterinary, and Life Sciences (Submission March 2020)
- **MSc (Res)** at Institute of Molecular, Cell, and Systems Biology (2015-2016)

University of Essex

- **BSc (Honours)**, Genetics (Upper first class) (2012-2015)
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AWARDS & SCHOLARSHIPS

- **Impact in 60 seconds:** 1st prize for science communication video
 - **Society of Experimental Botany:** Travel grant for international conference
 - **Studentship:** MVLS Doctoral Training Program (PhD)
 - **Scholarship:** Chelmsford Education Fund for MSc (Res)
 - **Dean's list honours:** Top 5% of grades for 2nd and 3rd year in BSc.
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RESEARCH EXPERIENCE

PhD project:

- Topic: Identifying epigenetically regulated tissue specific genes controlling salt tolerance.
- Supervisors: Prof. Anna Amtmann, Prof. Mike Blatt, Dr. Miriam Gifford

Master's by research project:

- Topic: Histone demethylases as regulators of root system architecture in *Arabidopsis*
- Supervisors: Prof. Anna Amtmann, Prof. Mike Blatt

Bachelor's project and dissertation

- Topic: Heat shock transcription factors protecting against reactive oxygen species
 - Supervisors: Prof. Phil Mullineaux
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PRESENTATIONS

Armstrong, EM. (2019, July). Tissue specific epigenetic regulation of salt stress responses in plants. Oral presentation, European Early Career Researchers Congress, Nottingham.

Armstrong, EM. (2019, April). Using fluorescence activated cell sorting for selective RNA recovery. Oral presentation at University of Warwick Internal Seminar series, Coventry.

Armstrong, EM. (2019, March). Epigenetically regulated tissue specific transcription. Poster presentation at Institute of Molecular, Cell, and Systems Biology Annual Symposium, Glasgow.

Armstrong, EM. (2018, Oct). Tissue specific transcription factors controlling salt tolerance. Oral presentation at Institute of Molecular, Cell, and Systems Biology Seminar Series, Glasgow.

Armstrong, EM. (2018, July). Plant responses to salt are controlled by specific root tissues. Oral presentation and interview for finalists at Federation for Women Graduates, London.

Armstrong, EM. (2018, June). Epigenetic regulation of salt responses. Invited oral presentation at both Gordon Research Conference and Seminar, New Hampshire, United States.

Armstrong, EM. (2018, June). Epigenetic regulation of salt responses. Invited poster presentation at both Gordon Research Conference and Seminar, New Hampshire, United States.

PUBLICATIONS

Armstrong, EM (2019, April). Massive new study confirms higher BMI linked with serious increase in multiple diseases in UK” published in The Glasgow Insight into Science and Technology.

Armstrong, EM (2018, March). “Plant-Based Biomaterials” published in The Biochemist Blog.

Shazad, Z. Armstrong, EM et al. (2018, March). “EZ-Root-Vis: A Software Pipeline for the Rapid Analysis and Visual Reconstruction of Root System Architecture”. Published in Plant Physiology.

Armstrong, EM (August 2017). “Climate Change, Brexit, and Food Supply: The ultimate trilemma?” Published in the Glasgow Insight into Science and Technology

LABORATORY SKILLS

- **Plant culture:** sterile tissue culture, sterile seedling plate culture, hydroponics, soil growth for seed, soil growth for experimental purposes, liquid culture, *Agrobacterium* mediated floral dipping for transformation
 - **Molecular Biology:** Plasmid purification, RNA and DNA extraction, cDNA synthesis, RT-qPCR, RT-PCR, ChIP-qPCR, Western blotting, protein purification, classical and gateway cloning, site-directed mutagenesis, electrophoresis, electrophoretic mobility shift assays, chromatin immunoprecipitation, protoplast generation, *E.coli* culture, DAPI stain.
 - **Specialist equipment:** Fluorescence activated cell sorting, flame spectrophotometry, EZ Rhizo root system architecture phenotyping, confocal microscopy and fluorescence quantitation, EdU staining, Isolation of Nuclei Tagged in specific Cell Types (INTACT).
 - **Sequencing:** RNA preparation for sequencing, ChIP-DNA preparation for sequencing, Cufflinks analysis package, data analysis.
 - **Software:** Graphpad Prism, Image J, Photoshop, Wordpress, Microsoft Office, SigmaPlot.
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TEACHING EXPERIENCE

Laboratory Demonstrator

- Responsible for 16 undergraduate second year students during Extreme Biology lab sessions, guided students through exercises and demonstrated specific skills

Graded paper marker

- Responsible for grading second year student’s final year exam papers, ensured marking scheme properly fulfilled, and answering student’s questions.

BSc and MSc Mentor

- Point of contact in the lab for BSc and MSc students during their final project. Taught students all required skills, improved experimental design, troubleshoot, supported with prospective applications and presentations. All students achieved 2:1 or above, merit or above.
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VOLUNTEER WORK AND LEADERSHIP

Head of Social Media and Communications at Glasgow Insight into Science and Tech

- Improved reach by 30%, engagement by 23%, follower count by 5% in first two months. Managed deputy head to improve post releases.
- Wrote press releases, attended press conferences, organised speakers, coordinated conference attendance as press, promoted associated events, curated grids and newsfeeds.
- Developed skills in Buffer, Issuu, Hootsuite, VideoScape

Social Media Support at Institute Molecular, Cell, Systems Biology

- Spearheaded initiative to improve research institute’s social media.
- Lead for branding redesign and outreach events promotion.
- Represented the institute at University wide social-media roundtable events.

Disabled Student’s Representative, University of Glasgow

- Represented postgraduate research students with disabilities to University Deans to advocate positive change for students in research environments.
 - Held drop-in sessions to ensure needs were being met, reported to Disability Equality Group
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MEMBER OF: Association of British Science Writers, The Society for Experimental Biology, The Royal Society of Biology

REFERENCES: Available on request

