

Geraint John Parry

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Work Experience and Education

May 2015- present: National Coordinator for the GARNet Community <http://www.garnetcommunity.org.uk>

GARNet is a BBSRC-funded network that supports plant science in the UK. This role includes organisation of workshops and meetings, maintenance of high-profile online visibility, providing technological updates for the community and acting as the *de facto* voice for UK academic plant scientists. I write and edit the biannual GARNish newsletter that promotes UK plant science worldwide and maintain the GARNet blog receiving 5K unique clicks/mth: <http://blog.garnetcommunity.org.uk/>

March 2016- present: Principal Investigator for Cardiff_Wales iGEM synthetic biology team. This involves obtaining funding and leading the scientific program for the inaugural Cardiff University undergraduate iGEM synthetic biology team.

March 2011- September 2014. Lecturer at the University of Liverpool, UK. This included a full teaching role and setting up of a research program focused on the mechanisms of plant nuclear transport.

Nov 2009- Feb 2011. Post-doctoral research in the laboratory of Dr Scott Michaels: Indiana University, Bloomington. Research focused on the relationship between histone modification and DNA replication in plants.

Jan 2002- Oct 2009. Post-doctoral research in the laboratory of Professor Mark Estelle: Indiana University, Bloomington. Research focused on the role of the Arabidopsis nuclear pore during the auxin response and on the factors that control the expression of auxin receptor proteins.

Oct.1997- Dec 2001. PhD from the University of Nottingham, UK entitled 'Investigating the Mechanism of Auxin Transport in *Arabidopsis thaliana*'. Supervised by Professor Malcolm Bennett and Dr Richard Napier (HRI Wellesbourne)

Oct.1996- Sept.1997. MRes in Analytical Biology from the University of Warwick

Oct.1993- July 1996. BSc (Hons.) class 2.1 in Biological Science with Virology from the University of Warwick

Recent Publications

> Parry G, Patron N, Bastow R, Matthewman C (2016) Meeting report: GARNet/OpenPlant CRISPR-Cas Workshop. *Plant Methods*. 12:6 DOI 10.1186/s13007-016-0104-z

> Parry G (2015) The Plant Nuclear Envelope and Regulation of Gene Expression. *Journal of Experimental Botany*. Epub 10.1093/jxb/erv023

> Kemp C, Coleman A, Wells G, Parry G* (2015) Overexpressing components of the Nuclear Transport apparatus causes severe growth symptoms in tobacco leaves. *Plant Signaling and Behaviour* 10(5):e1000103. doi: 10.1080/15592324.2014.1000103

> Parry G (2014) Components of the Nuclear Pore Complex Play Multiple Diverse Roles in Control of Plant Growth. *Journal of Experimental Botany*, 65, 6057-6067.

> Graumann K, Bass H, Parry G* (2013) SUNrises on the International Plant Nucleus Consortium. *Nucleus* 4, 1-5

- > **Parry G** (2013) Assessing the Function of the Plant Nuclear Pore Complex and the Search for Specificity. *Journal of Experimental Botany* **64** (4), 833-845
- > Calderón Villalobos L, Lee S, De Oliveira C, Ivetac A, Brandt W, Armitage L, Sheard L, Tan X, **Parry G et al** (2012) A Combinatorial TIR1/AFB-Aux/IAA Co-receptor System for Differential Sensing of Auxin. *Nature Chemical Biology* **8**(5):477-85
- > Band L, Wells D, Larrieu A, Sun J, Middleton A, French A, Brunoud G, Sato M, Wilson M, Peret B, Oliva M, Swarup R, Sairanen I, **Parry G et al** (2012) Root gravitropism is regulated by a transient lateral auxin gradient controlled by a novel tipping point mechanism. *PNAS* **109** 4668-73
- > Vernoux T, Brunoud G, Farcot E, Morin V, Van den Daele H, Legrand J, Oliva M, Das P, Larrieu A, Wells D, Guédon Y, Armitage L, Picard F, Guyomarc'h S, Cellier C, **Parry G et al** (2011) The auxin signalling network translates dynamic input into robust patterning at the shoot apex. *Mol Syst Biol.* **7**:508
- > Vidal E, Araus V, Lu C, **Parry G** Green PJ, Coruzzi GM, Gutiérrez RA (2010) Nitrate-responsive miR393/AFB3 regulatory module controls root system architecture in *Arabidopsis thaliana*. *PNAS* **107**, 4477-82
- > **Parry G**, Calderon-Villalobos LI, Prigge M, Peret B, Dharmasiri S, Itoh H, Lechner E, Gray WM, Bennett M, Estelle M (2009) Complex regulation of the TIR1/AFB family of auxin receptors. *PNAS* **106**, 22540-5
- > Savaldi-Goldstein S, Baiga T, Pojer F, Dabi T, Butterfield C, **Parry G** Santner A, Dharmasiri N, Tao Y, Estelle M, Noel JP, Chory J (2008) New auxin analogs with growth promoting effects in intact plants reveal a chemical strategy to improve hormone delivery. *PNAS* **105**, 15190-5
- > Swarup K, Benková E, Swarup R, Casimiro I, Péret B, Yang Y, **Parry G et al** (2008) The auxin influx carrier LAX3 promotes lateral root emergence. *Nature Cell Biology* **10**, 946-954
- > **Parry G**, Ward S, Ward S, Cernac A, Dharmasiri S, Estelle M (2006) The *Arabidopsis* SUPPRESSOR OF AUXIN RESISTANCE proteins are nucleoporins with an important role in hormone signaling and development. *The Plant Cell* **18**. 1590-1603.
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Recent Outreach Activities

- **April 2016:** Presentation at BBSRC DTP Career Day: **University of Glasgow**
 - **October 2015:** Participant in 'The Future of Food' debate: **Manchester Science Festival**
 - **June 2014:** Co-organiser of UoL participation at *Universities Week* at the **Natural History Museum, London**
 - **July 2012/2013/2014-** *Gatsby Plants Summer School*: Tutorial Supervisor
 - **May 2012-15:** Organiser of Liverpool 'Fascination of Plants Day'
 - **February 2012- Oct 2015:** Wales Gene Park school talks outlining the science behind Genetically Modified crops. Merseyside Area.
 - **August 2013-** *Skeptics on the Fringe*: 'The Science behind GM crops: What they are and what they can achieve', Banshee Labyrinth, Edinburgh Fringe Festival
 - **January 2013- Oct 2015-** Skeptics in the Pub and Café Science talks about the *Science of GM Crops*.
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Grant and Journal Reviews

- 2017:** *Journals:* The Plant Journal, Canadian Journal of Plant Biology
- 2016:** *Journals:* Nature, Journal of Experimental Botany, Nucleus, Plant Methods
- 2015:** *Grants:* DFG (Germany) *Journals:* Journal of Experimental Botany, *Nucleus*, PLOS Genetics.
- 2014:** *Grants:* BBSRC Responsive mode grant, Ohio Plant Biotechnology Consortium. *Journals:* Frontiers, Journal of Experimental Botany, Plant Journal, Plant Physiology, Plant Signaling and Behaviour, PLOS One, Proceeding of the National Academy of Science (PNAS)
- 2013:** *Journals:* Journal of Experimental Botany, Journal of Plant Growth Regulation, New Phytologist, Planta, Plant Biology, Plant Journal, PLOS One
- 2012:** *Journals:* New Phytologist, Plant Journal
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Research Funding

- Cardiff University Wellcome Trust ISSF Cross-Disciplinary award: 'Developing Cardiff Synthetic Biology by Supporting an Inaugural Welsh iGEM Team'. Summer 2016. **Total award- £3424**
- BBSRC Student Stipends for iGEM competition: 'BioGlowStick: The Rechargeable Reusable Biologically Powered Portable Night Light'. Summer 2016. **Total award: £9300**
- British Society Plant Pathology Summer Studentship: 'Investigating the relationship between Geminivirus infection and the plant nuclear transport apparatus'. Summer 2014. **Total award - £2500**
- University of Liverpool Technology Directorate Research Grant: 'Identification of the Plant RCC1 ortholog. April 2014. **Total award - £1500**
- Liverpool China Scholarship Council PhD studentship: 'Characterisation of the Plant Nuclear Pore Complex and Defining its Functional Role in Growth and Development' October 2013- Sept 2017. **Primary PI** (with Dr Luning Liu)
- University of Liverpool Technology Directorate Research Grant: 'Investigating the role of the Plant Nuclear Pore Complex in nuclear RNA export'. May 2013. **Total award - £9000**
- Society of Biology Undergraduate Research Bursary: 'Investigating the Role of the Plant Nuclear Pore Complex in control of Nuclear Morphology and Nuclear Transport'. Summer 2013. **Total award - £1400**
- British Society Plant Pathology Summer Studentship: 'Investigating the Nuclear Pore Complex as a possible target for developing resistance to Plant Viruses'. Summer 2013. **Total award - £2100.**
- Marie Curie Career Integration Grants (CIG), FP7-PEOPLE-2011-CIG: *Functional Characterisation of the Plant Nuclear Pore Complex*. March 2012- Feb 2014. **Total award - €44000**
- British Society Plant Pathology Summer Studentship: *Investigating the Relationship between the Plant Nuclear Pore Complex and Viral Infection*. Summer 2012. **Total award - £2100**
- Royal Society Research Grant: *Investigating the relationship between the Plant Nuclear Pore Complex and Viral Infection*. April 2012- March 2013. **Total Award- £10898**
- British Society Plant Pathology Summer Studentship: *Investigating the Role of the Arabidopsis Nuclear Pore Complex in the Plant Defense Response*. Summer 2011. **Total award - £2500**

Teaching Experience

September 2015- present: Final year project supervisor, University of Cardiff

March 2011- Sept 2014: Lecturer, *University of Liverpool*.

- **Genetics of Higher Organism (BIOL138):** Introductory Lecture Class.
 - **DNA Replication Recombination and Repair (BIOL209):** Intermediate Lecture Class.
 - **Techniques in Cell Biology (BIOL227):** Intermediate Lab Class, designed and supervised lab involving induced gene expression in Arabidopsis roots.
 - **Gene Expression and Development (BIOL402):** Honours Level Lecture Class, topic focused on research area.
 - **Advanced Skills in Genetics (BIOL409):** Honours Level Seminar Class, annual topics include 'Histone-Oncomodifications', 'Protein Degradation and the Auxin Response', 'Controlling developmental plasticity: investigating plant stem cells'.
 - **Research Project (BIOL605):** Honours Year lab project, students conduct two semesters of original research based on Plant Cell Biology. Project titles include:
 - 'Investigating the effects of Naproxen, a novel inhibitors of polar auxin transport in Arabidopsis roots',
 - 'Investigating the role of the plant NPC in mRNA export and gene expression change of auxin induced transcripts',
 - 'Investigation of the sequence conservation of the NPC proteins across plant species'.
 - **Biosystems (BIOL724):** Masters Level Seminar Class, based on 'Mechanisms of Nuclear Transport'.
- October 2012/2013/2014-** Involvement in an innovative international lab class for seniors at University of Texas, Austin in collaboration with Dr Jennifer Moon. My roles include experimental design, presenting an introductory lecture and assessing lab presentations.

References

Professor Jim Murray

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