

CV Dr. Susanne Barth

AFFILIATION/ADDRESS

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PERSONAL

Date of birth: 19/07/1970 in Eschenbach i.d.Opf./ Germany
Nationality: German

PROFESSIONAL EXPERIENCE AND TRAINING

06/2018 to date	Teagasc Crops Environment and Land Use Programme (CELUP) Oak Park Research Centre Carlow/Ireland, Principal Research Officer
07/2016 to 05/2018	Teagasc Crops Environment and Land Use Programme (CELUP) Oak Park Research Centre Carlow/Ireland, Senior Research Officer
03/2007 to 07/2016	Teagasc Crops Environment and Land Use Programme (CELUP) Oak Park Research Centre Carlow/Ireland, Research Officer permanent employed
01/2003-03/2007	Teagasc Crops Environment and Land Use Programme (CELUP) Oak Park Research Centre Carlow/Ireland, contract Research Officer
12/2001-01/2003	Postdoctoral Researcher at the Institute of Plant Genetics ETH Zurich, Switzerland; topics: Tetrapyrrole synthesis and light stress in plants
09/2001-11/2001	Postdoctoral Researcher at the Institute of Viticulture/University of Hohenheim on genetic diversity of <i>Vitis vinifera</i> cv. <i>sylvestris</i> (Gmel.) Beger
02/1997-02/2001	PhD at the Institute of Plant Breeding and Applied Genetics/ University of Hohenheim <i>PhD thesis</i> : "The variability of recombination frequencies in <i>Arabidopsis thaliana</i> "; finishing with Dr. sc. agr.
09/1996-01/1997	Trainee on molecular methods in plant breeding/ Federal Research Station Zurich Reckenholz, Switzerland (RFLPs and SSRs in wheat and spelt)
05/1996-09/1996	Scientific assistant IPK Gatersleben, Genebank/ Prof. K. Hammer: <i>in vitro</i> culture of <i>Allium</i> species

EDUCATION

1990-1996	Studies of Agricultural Sciences at the University Hohenheim and Technical University Munich Weihenstephan: Area of specialization: Plant Sciences (majors: plant nutrition, plant pathology, agronomy; minors: grassland science, forestry) <i>Diploma Thesis</i> : "Evaluation of <i>Quinoa</i> genotypes – phenology, morphology, and dry matter production"/Department of Crop Production and Grassland Management/Hohenheim, Prof. W. Aufhammer & Dr. H.P. Kaul ; finishing with Diplom Ingenieur Agrarwissenschaften, Dipl. Ing. sc. agr. During my studies I worked as student assistant in field trials at the Institute of Crop Production and Grassland Management in Hohenheim: bioenergy and fibre crops (hemp, kenaf and ramie) and alternative cereal crops (amaranth, quinoa, and buckwheat) (1994 to 1996)
1977-1990	Primary school in Auerbach i.d.Opf. and secondary school in Pegnitz/Germany finishing with 'Abitur'

CAREER BREAKS

01/2009-07/2009 26 weeks maternity leave for the birth of my son Richard
04/2012-10/2012 26 weeks maternity leave for the birth of my daughter Babette

HISTORY OF MENTORING AND SUPERVISION/TEACHING

Supervision of postgraduate students

Currently I am supervising **four PhD students**: Tomas Byrne: Sitka spruce genetic diversity (University supervisor Trevor Hodkinson, TCD); Rajas Shinde: circular bioeconomy approaches in grasslands (University supervisor David Wall/UCC); Sinead Dermody: Diversification of cereals for food use (University supervisor Prof Fiona Dooohan); Charlotte Morgan: Population genetics of common Irish grass weeds (University supervisor Trevor Hodkinson/TCD Dublin). In the **past** I have **supervised fifteen PhD and three MSc students** (1) Diana Garzon: N-uptake post anthesis in spring barley (Ian Bingham: SRUC & University of Edinburgh); (2) Tomas Byrne: abiotic stress in winter cereals (MSc thesis submitted 04/2019) (3) Sai Krishna Aroju: association mapping in perennial ryegrass (PhD viva defended November 2017). (4) Ewan Mollison: genome assembly of perennial ryegrass (PhD viva defended March 2017); (5) Lena Förster: Cold adaption traits in perennial ryegrass and cereal crops (MSc awarded May 2018); (6) Janaki Velmurugan: establishing a SNP calling pipeline for GS in perennial ryegrass (graduated with PhD June 2017); (7) Chloe Manzanares: SI in perennial ryegrass (graduated with PhD July 2013); (8) Mauro di Fenza: cold tolerance in maize (graduated with PhD December 2013); (9) Mariaterese de Cesare: genetic variability in a field collection of *Miscanthus* spp (graduated with PhD June 2014); (10) Celine Tomaszewski: fine mapping of biomass QTL in perennial ryegrass (graduated with PhD August 2012) (11) Rob van den Bekerom: chloroplast RNA editing studies in perennial ryegrass (graduated with PhD November 2011); (12) Alexandre Foito: metabolomics studies in perennial ryegrass (graduated with PhD June 2011); (13) Kerstin Diekmann: sequencing and assembling the chloroplast and mitochondrial genomes of perennial ryegrass (graduated with PhD November 2010); (14) Luca Cotecchia: expression profiles of fatty acid candidate genes in perennial ryegrass (graduated with MSc July 2010); (15) Bicheng Yang: SI in perennial ryegrass (graduated with PhD December 2009); (16) Ulrike Anhalt: mapping of biomass QTL in perennial ryegrass (graduated with PhD July 2009); (17) Sarah McGrath: genetic variability of a perennial ryegrass genetic resources collection (graduated with PhD November 2008); (18) Tiina Lynch: stomatal conductance in perennial ryegrass (University supervisor Professor Phillip Dix NUIM).

Additionally I was a co-supervisor of one final year student, Alica Knapik Technical University Berlin (thesis completed February 2007). During my own PhD time in Germany I co-supervised a Diploma student (Imad Zein), a MSc student (Anil Kumar Busimi) and a BSc student (Julia Kolanowski) at the Institute for Plant Breeding/University of Hohenheim/Germany.

Mentoring of PostDoctoral Researchers

In the **past** I have supervised **four** Postdoctoral researchers, Dr Sergei Kushnir 01/2019 – 01/2022 on a MSC contract; Dr. Trina Vellani (9 months contract), Dr. Aude Perdereau (2 years, financed by IRC), Dr. Abel Gari Teshome (2 years financed by CAROLINE: IRC/MS Cofund) and **two** contract research officers: Dr. Stephen Byrne (3 years contract) and Dr. Manfred Klaas (3 ½ years contract). **Currently** I am supervising **one** Postdoctoral Researcher Dr Shahid Khan 11/2022 – 09/2024 on an IRC/DFA contract.

I have also supervised technical staff members over the years on externally funded projects.

Other teaching activities

In 2013/2014, 2014/2015 & 2015/2016 I co-taught (in collaboration with Professor Trevor Hodkinson) a course for the 4th year functional biology and plant sciences moderatorship BSc course in TCD.

In 2002 I co-supervised and thought two courses on plant physiology and molecular biology for undergraduate students at the Institute of Plant Genetics /ETH Zurich (practicals and lectures).

In 1997 and 1998 I supervised and thought two courses on segregation and linkage analysis

for undergraduate students at the Institute for Plant Breeding/University of Hohenheim (practicals and lectures).

REFEREING

Grants	various EU grant schemes ERA CAPS BMBF/ Germany BBSRC/ UK (Biological British Research Council; various grant schemes) Foundation for Research, Science and Technology/ New Zealand ETH Zurich Sêr Cymru National Research Network for Low Carbon, Energy and the Environment; Welsh Government/ UK Estonian Research Council Central Finance and Contracting Agency Latvia Vrije Universiteit Brussel
thesis	External examiner for the PhD thesis of James Hayes 'Flowering in perennial ryegrass' / University of Dublin, Trinity College, Department of Genetics External examiner for the PhD thesis of Antonella Iurato 'Investigating the biological potential of <i>Miscanthus</i> seed production in southern Europe' / Aberystwyth University
journals	American Journal of Botany, Annals of Botany, Animal, Applications in Plant Sciences, BioEnergy Research, Biology and Environment – Proceedings of the Royal Irish Academy, Biomass and Bioenergy, BioMed Research International, Botany, BMC Biotechnology, BMC Genetics, BMC Genomics, BMC Plant Biology, Chromosome Research, Crop Science, Crop and Pasture Science, Euphytica, Field Crops Research, Flora, Food and Energy Security, Frontiers in Plant Science, Genetic Resources and Crop Evolution, Genome, Global Change Biology, GCB – Bioenergy, Heredity, Journal of Experimental Botany, Plant Biology, Plant Genetic Resources, Plant Breeding, Plant Cell Reports, Plant Methods, PloS ONE, Polymer Testing, Nature Plants, Nature Protocols, New Phytologist, New Zealand Journal of Agricultural Research, Scientific Reports, Seed Science Research, The Plant Genome, The Plant Journal, Theoretical and Applied Genetics, Trends in Plant Science, Weed Research
Scientific advisory	2015 - 2020: French national funded 'Investments for the Future' project 'BFF: Biomass for the Future' -Invited expert public hearing in European Parliament's Committee on Agriculture and Rural Development hearing "<i>Genetic diversity, conservation and crops wild relatives</i>" (December 2017)
board member	since 01/2016 Plant Panel member of the Genetic Resources Scientific advisory board of the Irish Department, Agriculture, Food and the Marine since 2019 EPA GMO advisory board panel member
EDITOR	
08/09 to date	editorial board member of the journal 'Annals of Botany' http://aob.oxfordjournals.org/
01/16 to 12/2017	editor for Axios Review

05/17 to 12/2019	editorial board member of the journal 'Global Change Biology – Bioenergy'
04/2018-05/2019	editor special issue on 'Genetics and Management of Perennial Forage Crops' for 'Agronomy'
07/2019 to date since 01/2022	editorial board member 'Agronomy' editorial board member of 'Agrochemicals', 'Frontiers in Plant Science', 'Grasses'

HONOURS/AWARDS

04/10 to date	Research Associate Trinity College Dublin
06/12	Ireland's Champions of EU Research award awarded by Enterprise Ireland
05/13	Teagasc Open Innovation Award: 'An integrated Teagasc PostDoctoral Mentoring Scheme'

INNOVATION/COMMERCIALISATION ACTIVITY

From 2011-2015 I have coordinated a FP7 collaborative project GrassMargins (www.grassmargins.com) which involved the participation of three SME and one large enterprise partner(s): K-NOW (UK), TINPLANT GmbH (Germany), CIRCA (Ireland) and DLF Trifolium (Denmark).

ORGANISATION OF INTERNATIONAL CONFERENCES

2017	scientific committee member 32 nd Eucarpia Fodder Crops and Amenity Grasses and Protein Crops Conference Vilnius/Lithuania
2015	Scientific committee member, Perennial Biomass Crops for a Resource Constrained World, 06.-10.09.2015, University of Hohenheim/Germany
2015	scientific committee member 31 st Eucarpia Fodder Crops and Amenity Grasses Conference Ghent/Belgium
2014	Programme committee member of the RECOMB Cold Spring Harbour Satellite Meeting on comparative genomics October 2014 Cold Spring Harbour/USA
2014	scientific committee member FESPB/EPSO conference June 2014 Dublin/Ireland
2013	scientific committee member 30 th Eucarpia Fodder Crops and Amenity Grasses Conference Vrnjačka Banja/Serbia
2011	Chairing the 29 th Eucarpia Fodder Crops and Amenity Grasses Conference in Dublin/Ireland
2008	scientific committee member ABIC conference Cork/Ireland

ORGANISATION OF NATIONAL CONFERENCES

2019	Chairing the Irish Plant Biologists Meeting (IPSAM) in Carlow
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FUNDING OBTAINED

Year	Euro	funding body/programme
2022	7 000 000	LegumeGeneration EU grant on breeding of legume crops as coordinator, Teagasc as organisation withdrawn post-award
2021	194757	Protein-I, project collaborator
2021	350000	AVENA IRC-COALSECE project funded by DFA on sub-tropical oats germplasm for the mountain areas of Ethiopia (Euro 165 901 for Teagasc); coordinator
2020	96000	Teagasc PhD studentship (Walsh Scholarship): EXPECT project
2019	210000	Coford 17/C/297: Stika spruce genetic diversity, project partner
2018	298900	CAREER-FIT MC-Cofund/ EI Postdoctoral Stipend for Dr Sergei Kushnir

2018	230000	Enable Conservation Tillage (ECT) EIP project
2017	173 000	CAROLINE MC-Cofund/ IRC Postdoctoral Stipend for Dr Abel Gari Teshome
2015	95 000	Government of Ireland Postdoctoral stipend for Dr. Aude Perdereau
2014	300 000	DAFM Research Stimulus Fund 14/S/819 (project partner)
2013	84 000	Teagasc PhD studentship (Walsh Fellowship)
2012	181 840	DAFM Research Stimulus Fund 11/S/109 (project partner)
2012	84000	Teagasc PhD studentship (Walsh Fellowship)
2011	2 998 632	FP7 cooperative project (coordinator) (KBBE-2011-5-289461) €736810 to Oak Park
2011	84 000	Teagasc PhD studentship (Walsh Fellowship)
2010	84 000	Teagasc PhD studentship (Walsh Fellowship)
2010	8 178	Enterprise Ireland FP7 coordinator grant
2008	84 000	Teagasc PhD studentship (Walsh Fellowship)
2007	151 238	DAFM Research Stimulus Fund RSF 07 501 (project partner, Oak Park proportion of budget)
	326 626	DAFM Research Stimulus Fund RSF 07 566 (principal investigator)
	10 000	DAFM Genetic Resources for Food and Agriculture Fund (07/GR/18)
	63 000	Teagasc, PhD studentship (Walsh Fellowship)
	63 000	Teagasc, PhD studentship (Walsh Fellowship)
2006	438 000	DAFM Research Stimulus Fund RSF 06 346 (project co-ordinator)
	125 000	DAFM Research Stimulus Fund RSF 06 330 (project partner)
	12 180	DAFM Genetic Resources for Food and Agriculture Fund (06/GR/13)
	54 000	Teagasc, PhD studentship (Walsh Fellowship)
	54 000	Teagasc, PhD studentship (Walsh Fellowship)
2005	7 100	DAFM Genetic Resources for Food and Agriculture Fund (05/GR/02)
	54 000	Teagasc, PhD studentship (Walsh Fellowship)
2004	10 000	DAFM Genetic Resources for Food and Agriculture Fund (04/GR/01)
	7 000	EMBO Short-term Fellowship for Dr. Michael Klocke
	70 000	IRCSET Postdoctoral Fellowship for Mr. David Chagne in collaboration with Dr. Charles Spillane UCC Cork (declined post-award)
	54 000	Teagasc, PhD position (Walsh Fellowship)
	54 000	Teagasc, PhD position (Walsh Fellowship)
2003	8 000	DAFM Genetic Resources for Food and Agriculture Fund (03/GR/08)
2001	40 000	DAAD Postdoctoral Fellowship for myself
	50 000	Individual Marie Curie Postdoctoral Fellowship for myself

MEMBERSHIP OF PROFESSIONAL BODIES

- COST action FA1306 The quest for tolerant varieties: phenotyping at plant and cellular level.
- COST action 851 Gametic Cells and Molecular Breeding for Crop Improvement
- EUCARPIA (European Plant Breeders Association), member since 2003
- EUCARPIA board member of the 'fodder crops and amenity grasses section' 2009-2017
- ECPGR (European Cooperative Programme for Plant Genetic Resources) 'Forage Working Group' Phase VIII (2009-2013) and IX (2014-2018) and X (2019-2023), representative for Ireland & task leader in executive committee

PUBLICATION LIST SUSANNE BARTH

REFEREED PUBLICATIONS IN SCIENTIFIC JOURNALS

- 78 Brennan, L., O'Gorman, A., **Barth, S.**, Cadden, T., Dean, M. & Doohan, F. et al. (2022)
An innovative food system approach to diversifying protein intake: Protein-I: Shared
Island sustainable healthy nutrition. Nutrition Bulletin, 47, 516–523. Available from:
<https://doi.org/10.1111/nbu.12590>
- 77 Vijaya Bhaskar AV, Cook SK, Schilder D, Staples J, Hennessy M, **Barth S**, Forristal PD

- (2022) Grass-weed challenges, herbicide resistance status and weed control practices across crop establishment systems in Ireland's mild Atlantic climate. *Frontiers in Agronomy*, <https://doi.org/10.3389/fagro.2022.1063773>
- 76 Byrne, Tomás, Niall Farrelly, Colin Kelleher, Trevor R. Hodkinson, Stephen L. Byrne, and Susanne **Barth** (2022) Genetic diversity and structure of a diverse population of *Picea sitchensis* using Genotyping-by-Sequencing. *Forests* 13, no. 9: 1511. <https://doi.org/10.3390/f13091511>
- 75 Kehoe S, Byrne T, Spink J, **Barth S**, Ng CKY, Tracy SR (2022) A novel 3D X-ray computed tomography (CT) method for spatio-temporal evaluation of waterlogging-induced aerenchyma formation in barley. *The Plant Phenome Journal*, **5**, e20035. <https://doi.org/10.1002/ppj2.20035>
- 74 Vijaya Bhaskar AV, Forristal PD, Cook SK, Schilder D, Staples J, Hennessy M, **Barth S** (2021) First identification and characterization of cross- and multiple resistance to acetyl-CoA carboxylase (ACCase)- and acetolactate synthase (ALS)-inhibiting herbicides in black-grass (*Alopecurus myosuroides*) and Italian ryegrass (*Lolium multiflorum*) populations from Ireland. *Agriculture* 11, 1272. <https://doi.org/10.3390/agriculture11121272>
- 73 Byrne, T, Grant, J, Kock-Appelgren, P, Förster L, Michel T, Miricescu, A, Thomas WTB, Graciet E, Spink J, K.Y. Ng CKY, **Barth S** (2021) Improving phenotyping in winter barley cultivars towards flooding tolerance by combining field trials under natural conditions with controlled growth condition experiments. *European Journal of Agronomy* 133 (2022) 126432
- 72 Byrne R, Vijaya Bhaskar AV, Spink J, Freckleton R, Neve P, **Barth S** (2021) Irish *Avena fatua* populations resistant to post-emergent herbicides. *Irish Journal of Agriculture and Food Research* DOI: 10.15212/ijafr-2020-0127 • xx • 1-6
- 71 Miricescu A, Byrne T, Ng CKY, **Barth S**, Graciet E (2021) Experimental comparison of two methods to study barley responses to partial submergence. *Plant Methods* 17:40 <https://doi.org/10.1186/s13007-021-00742-5>
- 70 De Vega JJ, Teshome A, Klaas M, Grant J, Finnan J, **Barth S** (2021) Physiological and transcriptional response to drought stress among bioenergy grass *Miscanthus* species. *Biotechnology for Biofuels* 14:60; <https://doi.org/10.1186/s13068-021-01915-z>
- 69 Curran N, Grogan D, Milbourne D, Byrne SL, O'Riordan E, Hanley M, Grant J, Hodkinson TR, **Barth S** (2020) Persistency, yield, and silage quality of *Festulolium* hybrids over an extended time under a mild Atlantic climate. *Biologia Plantarum* 64: 856-864; DOI: 10.32615/bp.2020.157
- 68 Mitros T, Session A, James BT, Wu GA, Belaffif MB, Clark LV, Shu S, Dong H; Barling A, Holmes JR, Mattick JE, Bredeson JV, Liu S, K, Głowacka K, Jeżowski S, Barry K, Chae WB, Gifford J, Oladeinde A, Yamada T, Grimwood J, Putnam NH, Vega J, **Barth S**, Jin X, Peng J, Yu CY, Heo K, Yoo JH, Ghimire BK, Juvik JA, Klaas M, Hodkinson TR, Li L, Donnison IS, Schmutz J, Hudson ME, Sacks EJ, Moose SP, Swaminathan K, Rokhsar DS (2020) Genome biology of the paleotetraploid perennial C4 grass *Miscanthus*. *Nature Communications* 11: 5442 <https://doi.org/10.1038/s41467-020-18923-6>
- 67 Vijaya Bhaskar AV, Forristal PD, Cook SK, Staples J, Schilder D, Hennessy M, **Barth S** (2020) First report on assessing the severity of herbicide resistance to ACCase inhibitors pinoxaden, propaquizafop and cycloxydim in Irish *Avena fatua*. *Agronomy* 10, 1362; doi:10.3390/agronomy10091362
- 66 Slatter LM, **Barth S**, Manzanares C, Velmurugan J, Place I, Thorogood D (2020) New sources of self-compatibility in the outcrossing grass species, perennial ryegrass (*Lolium perenne*). *Annals of Botany* <https://doi.org/10.1093/aob/mcaa140>
- 65 Barros KA; Esteves-Ferreira AA, Inaba M, Meally H, Finnan J, **Barth S**, Sulpice R(2020) Transient carbon reserves in barley: Malate, sucrose and starch are the main players, their quantitative involvement being light intensity and in part clock dependant. *Frontiers in Plant Science* DOI: 10.3389/fpls.2020.00209
- 64 Barros KA, Esteves-Ferreira AA, Inaba M, Meally H, Finnan J, **Barth S**, Davis S, Sulpice R(2020) Diurnal patterns of growth and transient reserves of sink and source tissues are affected by cold nights in barley. *Plant, Cell & Environment* 43:1404-1420, doi:

10.1111/pce.13735

- 63 Lucci GM, Henchion MM, Lange L, Ledgard SF, Collie SR, Cosgrove GP, Meyer AS, Graichen FHM, **Barth S**, Lenehan JJ (2019) Beyond ruminants: discussing opportunities for alternative pasture uses in New Zealand. *Journal of New Zealand Grasslands* 81: 217-222, doi:<https://doi.org/10.33584/jnztg.2019.81.401>
- 62 Hodkinson TR, Perdereau A, Klaas M, Cormican P, **Barth S** (2019) Genotyping by sequencing and plastome analysis finds high genetic variability and geographical structure in *Dactylis glomerata* in NW Europe despite lack of ploidy variation. *Agronomy* 9, 342; doi:10.3390/agronomy9070342
- 61 Klaas M, Haiminen N, Grant J, Cormican P, Finnan J, Arojju SK, Utró F, Vellani T, Parida L, **Barth S** (2019) Transcriptome characterization and differentially expressed genes under flooding and drought stress in the biomass grasses *Phalaris arundinacea* and *Dactylis glomerata*. *Annals of Botany*, doi: 10.1093/aob/mcz074
- 60 Teshome A, Byrne SL, Didion T, De Vega J, Jensen CS, Klaas M, **Barth S** (2019) Transcriptome sequencing of *Festulolium* accessions under salt stress. *BMC Research Notes* 12:311. DOI :10.1186/s13104-019-4349-2
- 59 Förster L, Grant J, Michel T, Ng C, **Barth S** (2018) Growth under cold conditions in a wide perennial ryegrass panel is under tight physiological control. *PeerJ*. doi: 10.7717/peerj.5520
- 58 Velmurugan J, Milbourne D, Connolly V, Heslop-Harrison Pat (JS), Anhalt UCM., Lynch MB, **Barth S** (2018) An immortalized genetic mapping population for perennial ryegrass: A resource for phenotyping and complex trait mapping. *Front. Plant Sci.* 9:717. doi: 10.3389/fpls.2018.00717
- 57 Arojju SK, Conaghan P, **Barth S**, Milbourne D, Casler MD, Hodkinson TR, Michel T & Byrne SL (2018) Genomic prediction of crown rust resistance in *Lolium perenne*. *BMC Genetics*, doi.org/10.1186/s12863-018-0613-z
- 56 Byrne R, Spink J, Neve P, Freckleton R, **Barth S** (2018) A critical review towards integrated grass weed management in Ireland. *Irish Journal of Agriculture and Food Research* 57:15-28; DOI:10.1515/ijafr-2018-0003
- 55 Meehan P, Burke B, Doyle D, **Barth S**, Finnan J (2017) Exploring the potential of grass feedstock from marginal land in Ireland: Does marginal mean lower yield? *Biomass and Bioenergy*, <http://dx.doi.org/10.1016/j.biombioe.2017.10.014>
- 54 Foito A, Hackett CA, Stewart D, Velmurugan J, Milbourne D, Byrne SL, **Barth S** (2017) Quantitative trait loci associated with different classes of polar metabolites in perennial ryegrass - providing scope for breeding towards increasing certain classes of polar metabolites. *BMC Genetics*, DOI: 10.1186/s12863-017-0552-0
- 53 Thorogood D, Yates S, Manzanares C, Skot L, Hegarty M, Blackmore T, **Barth S**, Studer B (2017) A novel multivariate approach to phenotyping and association mapping of multi-locus gametophytic self-incompatibility reveals S, Z, and other loci in a perennial ryegrass (*Poaceae*) population. *Frontiers in Plant Science*, doi: 10.3389/fpls.2017.01331
- 52 Byrne SL, Conaghan P, **Barth S**, Arojju SK, Casler M, Michel T, Velmurugan J, Milbourne D (2017) Using variable importance measures to identify a small set of SNPs capable of predicting heading date in perennial ryegrass. *Scientific Reports* 7: 3566, doi:10.1038/s41598-017-03232-8
- 51 Di Fenza M, Hogg B Grant J, & **Barth S** (2017) Transcriptomic response of maize primary roots to low temperatures at seedling emergence. *PeerJ*, DOI 10.7717/peerj.2839
- 50 Arojju SK, **Barth S**, Milbourne D, Conaghan P, Velmurugan J, Hodkinson TR & Byrne SL (2016) Markers associated with heading and aftermath heading in perennial ryegrass full-sib families. *BMC Plant Biology*, 16(1):160. doi: 10.1186/s12870-016-0844-y
- 49 Velmurugan J, Mollison EMB, **Barth S**, Marshall D, Milne L, Creevey C, Lynch B, Meally H, McCabe M, Milbourne D (2016) An ultra-high density genetic linkage map of perennial ryegrass (*Lolium perenne*) using genotyping by sequencing (GBS) based on a reference shotgun genome assembly. *Annals of Botany* 118(1):71-87, DOI 10.1093/aob/mcw081
- 48 Perdereau A, Klaas M, **Barth S** & Hodkinson TR (2016) Plastid genome sequencing reveals biogeographic structure and extensive population genetic variation in wild populations of *Phalaris arundinacea* L. in north western Europe. *Global Change Biology* –

Bioenergy, DOI: 10.1111/gcbb.12362

- 47 **Barth S**, Jankowska JM, Hodkinson TR, Vellani T & Klaas M (2016) Variation in sequences containing microsatellite motifs in the perennial biomass and forage grass, *Phalaris arundinacea* (Poaceae). BMC Research Notes 9:184 DOI: 10.1186/s13104-016-1994-6
- 46 Manazanares C, **Barth S**, Thorogood D, Byrne SL, Yates S, Czaban A, Yang B, Asp T & Studer S (2015) A gene encoding a DUF247 domain protein co-segregates with the S self-incompatibility locus in perennial ryegrass. Molecular Biology and Evolution. doi:10.1093/molbev/msv335
- 45 **Barth S**, McGrath S, Aroju SK & Hodkinson TR (2015) An Irish perennial ryegrass genetic resources collection clearly divides into two major gene pools. Plant Genetic Resources: Characterization and Utilization doi:10.1017/S1479262115000611
- 44 Lynch TMH, **Barth S**, Dix PJ, Grogan D, Grant J & Grant O (2015) Ground cover assessment of perennial ryegrass using digital imaging. Agronomy Journal: 107:2347-2352 (doi:10.2134/agronj15.0185)
- 43 Hodkinson TR, Klaas M, Jones MB, Prickett R & **Barth S** (2014) *Miscanthus*: a case study for the utilization of natural genetic variation. Plant Genetic Resources: Characterization and Utilization 1–20: (doi:10.1017/S147926211400094X)
- 42 Haiminen N, Klaas M, Zhou Z, Utró F, Cormican P, Didion T, Jensen CS, Mason C, **Barth S**, Parida L (2014) Comparative exomics of *Phalaris* cultivars under salt stress. BMC Genomics 15 (Suppl 6):S18 (doi:10.1186/1471-2164-15-S6-S18)
- 41 Foito A, Hackett CA, Byrne SL, Stewart D & **Barth S** (2014) Quantitative trait loci analysis to study the genetic regulation of non-polar metabolites in perennial ryegrass. Metabolomics, doi:10.1007/s11306-014-0703-5
- 40 McGrath S, Hodkinson TR, Frohlich A, Grant J & **Barth S** (2013) Seasonal and genetic variation of water soluble carbohydrates and other quality traits in ecotypes and cultivars of perennial ryegrass (*Lolium perenne* L.). Plant Genetic Resources: Characterization and Utilization 12(2): 236–247, doi:10.1017/S1479262113000567
- 39 Hodkinson TR, De Cesare M & **Barth S** (2013) Nuclear SSR markers for *Miscanthus*, *Saccharum*, and related grasses (Panicoideae, Poaceae). Applications in Plant Sciences 1 (11): 1300042
- 38 Coffey MF, **Barth S**, Hayes K & Breen J (2013) The health status of Irish honeybee colonies in 2006. Irish Journal of Agricultural and Food Research 52: 39–51
- 37 van den Bekerom, RJM, Dix PJ, Diekmann K & **Barth S** (2013) Variations in efficiency of plastidial RNA-editing within *ndh* transcripts of perennial ryegrass (*Lolium perenne*) are not linked to differences in drought tolerance. AoB PLANTS (DOI 10.1093/aobpla/plt035)
- 36 Gallagher E, Douglas GA, Kelly DK, **Barth S**, Kelleher CT & Hodkinson TR (2013) Old age sex: a parentage study of different age cohorts in a native veteran pendunculate oak (*Quercus robur* L.) woodland using microsatellite markers. Biology and Environment: Proceedings of the Royal Irish Academy 113B (2), 1-13 (DOI: 10.3318/BIOE.2013.15)
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- 8 Interview with Nigel Cassidy for BBC World Service radio for World Business Report

- programme on Thursday (14.11.2019?) possibilities and issues around creating fuels from fast-growing crops and grasses (Interview 13.11.2019)
- 7 Interview with Sue Nunn Radio KCLR to promote the Irish Plant Scientist Meeting in Carlow (06/2019)
 - 6 Newspaper interview with the Irish Times; interview by Barry McCall appeared on the 1st of February 2016 as 'The perennial problem with Irish ryegrass'
<http://www.irishtimes.com/sponsored/the-perennial-problem-with-irish-ryegrass-1.2515506>
 - 5 Radio interview with KFM (Ciara Plunkett) on hybrid breeding in perennial ryegrass broadcasted on Thursday 7th and Saturday 9th of January 2016
 - 4 Teagasc Press release on hybrid breeding, 6th of January 2016
 - 3 Television interview with euronews on GrassMargins project first broadcasted on Tuesday 28 July 2015
 - 2 Television interview with Irish TV on GrassMargins project broadcasted on 14.06.2014 as part of episode 4 of the County Carlow matters.
 - 1 Interview by Antony King on GrassMargins project January 2014:
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