

Richard Scott Poethig

Education

B.A., 1974; College of Wooster, Wooster, OH
M. S., 1977; Ph.D., 1981; Yale University, New Haven, CT

Employment

1981 Postdoctoral fellow with Dr. P.B. Green, Stanford University
1981-1983 Postdoctoral fellow with Dr. E. H. Coe, University of Missouri
1983-1989 Assistant Professor, University of Pennsylvania
1989-1996 Associate Professor, University of Pennsylvania
1996- Professor, University of Pennsylvania
2002-2007 Paul C. Williams Family Chair, University of Pennsylvania
2008-2014 Patricia M. Williams Chair, University of Pennsylvania
2014- John B. and Margaret H. Fassitt Chair, University of Pennsylvania

Honors and Fellowships

Phi Beta Kappa, 1974
NSF Predoctoral Fellowship, 1975-1979
Nicholas Prize in Experimental Biology, Yale University, 1981
Pelton Award, Botanical Society of America, 1993
Fellow, American Association for the Advancement of Science, 2002
Lindback Award for Distinguished Teaching, 2011
G.E. Blackman Lecture, Oxford University, 2013
Member, U.S. National Academy of Sciences, 2014
Christopher Clavius Award, St. Joseph's University, 2017

Professional Activities

Review Panels and Scientific Advisory Committees

USDA-CRGO, Plant Growth and Development, 1988-1991
NSF Developmental Mechanisms Program, Committee of Visitors, 1993
DOE Energy Bioscience Program, program review committee, 1994
NSF Faculty Fellows Review Committee, 1996
NSF Developmental Mechanisms Program, 1998, 2001, 2003, 2004, 2007, 2008, 2009
Member, Advisory Committee, NSF Maize Gene Discovery Project, 2000-2003
NSF Plant Genome Program, 2005
Chair, Advisory Committee, NSF Maize Sequencing Project, 2003-2005
Member, North American Arabidopsis Steering Committee, 2007-2011
Life Sciences Research Foundation, 1988-present
Member, NIH Development 1 Study Section 2016 –2020
Member, NSF IOS Committee of Visitors, 2018

Editorial Boards

International Journal of Plant Sciences, 1991-1998
Development, 1989-1998
The Plant Journal, 1991- 2003
Annual Review of Cell and Developmental Biology, 1999-2004
Developmental Biology, 2001-2011, (Associate Editor; 1993-1995)
Wiley Interdisciplinary Reviews in Developmental Biology, Associate Editor (2011-2016)
Genetics, Associate Editor (2012-2018)
Proceedings of the National Academy of Sciences, Editorial Board, (2024-)

Publications

- Green, P. B. and R. S. Poethig (1982) Biophysics of the extension and initiation of plant organs. In: *Developmental Order: Its Origin and Regulation* (S. Subtelny and P.B. Green, eds.), A.R. Liss, NY, pp. 485-509
- Coe, E. H. and R. S. Poethig (1982) Genetic factors affecting plant development. In: *Maize for Biological Research*. (W.F. Sheridan, ed.), Plant Mol. Biol. Assn., Virginia, pp. 295-300.
- Poethig, R. S. (1982) Maize: the plant and its parts. In: *Maize for Biological Research*. (W.F. Sheridan, ed.), Plant Mol. Biol. Assn., Virginia, pp. 9-18.
- Poethig, R. S. (1984) The cellular parameters of leaf morphogenesis in maize and tobacco. In: *Contemporary Problems in Plant Anatomy* (R.A. White and W.C. Dickison, eds.), Academic Press, NY pp. 235-259.
- Poethig, R. S. (1984) Patterns and problems in angiosperm leaf morphogenesis. In: *Pattern Formation* (S. Bryant and G. Malacinski, eds.), MacMillan Co., NY, pp. 413-432.
- Poethig, R. S. and I. M. Sussex (1985) The developmental morphology and growth dynamics of the tobacco leaf. *Planta* 165: 158-169.
- Poethig, R. S. and I. M. Sussex (1985) The cellular parameters of leaf development in tobacco: a clonal analysis. *Planta* 165: 170-184.
- Poethig, R. S. (1985) Homeotic mutations in maize. In: *Plant Genetics*. (M. Freeling, ed) UCLA Symp. Mol. Cell Biol. 35: 33-43.
- Poethig, R. S., E. H. Coe, Jr. and M. M. Johri (1986) Cell lineage patterns in maize embryogenesis: a clonal analysis. *Developmental Biology* 117: 392-404.
- Poethig, R. S. (1987) Clonal analysis of cell lineage patterns in plants. *Amer. J. Bot.* 74: 581-594.
- Poethig, R. S. (1988) Heterochronic mutations affecting shoot development in maize. *Genetics* 119: 959-973.
- Poethig, R.S. (1988) A non-cell-autonomous mutation regulating juvenility in maize. *Nature*: 336: 82-83.
- McDaniel, C. N. and R. S. Poethig (1988) Cell-lineage patterns in the shoot apical meristem of the germinating maize embryo. *Planta* 175: 13-22.
- McDaniel, C.N. and R.S. Poethig. (1989) From here to there in maize: a fate map of the shoot apical meristem of the germinating corn embryo. In: *The Molecular Basis of Plant Development*, (R. Goldberg, ed.), UCLA Symp. Cell Mol. Biol.(NS) 92: 3-11
- Poethig, R.S. (1989) Genetic modifiers of heterochronic mutations in maize. In: *The Molecular Basis of Plant Development*, (R. Goldberg, ed.), UCLA Symp. Cell Mol. Biol.(NS) 92:25-35.
- Poethig, S. (1989) Genetic mosaics and cell lineage analysis in plants. *Trends Genet.* 5: 273-277.
- Becraft, P.W., D.K. Bongard-Pierce, A. W. Sylvester, R. S. Poethig and M. Freeling (1990) The *liguleless-1* gene acts tissue specifically in maize leaf development. *Dev. Biol.* 141:220-232.
- Poethig, R.S., C.N. McDaniel and E. H. Coe, Jr. (1990) The cell lineage of the maize shoot. In: *The Genetics of Pattern Formation* (A. Mahowald, ed.), Wiley-Liss, New York. pp. 197-208.
- Poethig, R.S. (1990) Phase change and the regulation of shoot morphogenesis in plants. *Science* 250: 923-930.
- Dudley, M. and R.S. Poethig. (1991) The effect of a heterochronic mutation, *Teopod 2*, on the cell lineage of the maize shoot. *Development* 111: 733-739
- Dolan, L. and R. S. Poethig. (1991) Genetic analysis of leaf development in cotton. *Development (Suppl)* 1: 39-46
- Bassiri, A., E. E. Irish, and R. S. Poethig (1992) Heterochronic effects of *Tp2* on the growth and photosensitivity of the maize shoot. *Plant Cell* 4: 497-504
- Dudley, M. and R. S. Poethig (1993) The heterochronic *Teopod1* and *Teopod2* mutations of maize are expressed non-cell-autonomously. *Genetics* 133: 389-399
- Conway, L. and R. S. Poethig (1993) Heterochrony in plant development. *Sem. Dev. Biol.* 4: 65-72.

- Dudley, M. and R. S. Poethig (1993) Clonal analysis in plants. In: *Cellular Interactions in Development: Practical Approach Series*. (D. Hartley, ed) Oxford U. Press. pp. 59-75.
- Dolan, L., K. Janmaat, V. Willemsen, P. Linstead, R. S. Poethig, K. Roberts and B. Scheres (1993) The cellular organization of the *Arabidopsis* root. *Development* 119: 71-84
- Barton, M. K. and R. S. Poethig (1993) Formation of the shoot apical meristem in *Arabidopsis thaliana*: an analysis of development in the wild type and in the *shoot meristemless* mutant. *Development* 119: 823-831
- Poethig, R. S. (1993) The maize shoot. In: *The Maize Handbook* (V. Walbot and M. Freeling, eds), Springer-Verlag, pp. 11-17.
- Evans, M.M.S., H. Passas and R. S. Poethig (1994) Heterochronic effects of *glossy15* mutations on epidermal cell identity in maize. *Development* 120: 1971-1981
- Dolan, L., P. Linstead, R. S. Poethig, K. Roberts (1994) The contribution of chimeras to the understanding of root meristem organization. In: *Shape and Form in Plants and Fungi* (D. Ingham, ed.), Academic Press, London pp. 195-208.
- Dolan, L., C. M. Duckett, C. Grierson, P. Linstead, K. Schneider, E. Lawson, C. Dean, R. S. Poethig, K. Roberts (1994) Clonal relationships and cell patterning in the root epidermis of *Arabidopsis*. *Development* 120: 2465-2474.
- Telfer, A. and R. S. Poethig (1994) Leaf development in *Arabidopsis*. In: *Arabidopsis* (C. Somerville and E. Meyerowitz, eds). pp. 379-401, Cold Spring Harbor Press, Monograph 27.
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- Evans, M. M. S. and R. S. Poethig (1995) Gibberellins promote vegetative phase change and reproductive maturity in maize. *Plant Physiology* 108: 475-487.
- Lawson, E. and R. S. Poethig (1995) Shoot development in plants: time for a change. *Trends Genet.* 11: 263-268.
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- Telfer, A., K. M. Bollman and R. S. Poethig (1997) Phase change and the regulation of trichome distribution in *Arabidopsis thaliana*. *Development* 124: 645-654
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- Dolan, L. and R. S. Poethig (1998) Clonal analysis of leaf development in cotton. *Amer. J. Bot.* 85: 315-321.
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- Wu, G., Lin, W-c, Huang T., Poethig R. S., Springer, P. S., and R. A. Kerstetter (2008). KANADI1 regulates adaxial-abaxial polarity in *Arabidopsis* by directly repressing the transcription of *ASYMMETRIC LEAVES2*. *Proc. Natl. Acad. Sci.* 105: 16392-16397 (Poethig, Springer and Kerstetter share corresponding authorship).
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- Poethig, R. S. (2010). The past, present, and future of vegetative phase change. *Plant Physiol.* 154: 541-544.
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