José R. Dinneny, PhD

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DOB: May 31st, 1978

CURRENT AFFILIATIONS

07/11 – present	Staff Member Carnegie Institution for Science, Department of Plant Biology
07/11 – present	Associate Professor by Courtesy Department of Biological Sciences Stanford University

PAST AFFILIATIONS

05/08 – 10/11	Principal Investigator Temasek Lifesciences Laboratory, Singapore
05/08 – 2013	Assistant Professor Department of Biological Sciences National University of Singapore

EDUCATION AND TRAINING

10/05 - 05/08	Post-doctoral research
Institute:	Duke University
Advisor:	Philip N. Benfey
Research Area:	Cell-type specific transcriptomic analysis of salt stress response
09/00 - 09/05	Pre-doctoral research
Institutes:	University of California, San Diego Salk Institute for Biological Sciences
Degree:	PhD
Research Area:	Developmental genetics of organogenesis
Thesis advisors:	Martin F. Yanofsky Detlef Weigel
09/96 - 05/00	University Of California, Berkeley
Degree:	BS, Highest Honors
Major:	Plant Biology and Genetics

PUBLICATIONS- highlighted research

Robbins NE and **Dinneny JR** (2017) Growth Is Required for Perception of Water Availability to Pattern Plant Root Branches. *bioRxiv*. doi:10.1101/097758

Sebastian J, Yee MC, Viana WG, Rellán-Álvarez R, Feldman M, Priest H, Trontin C, Lee T, Jiang H, Baxter I, Mockler TC, Hochholdinger F, Brutnell TP and **Dinneny JR** (2016) Grasses suppress shoot-borne roots to conserve water during drought. *Proc. Natl. Acad. Sci. U. S. A.* 8861–8866, doi: 10.1073/pnas.1604021113**

**Highlighted by the BBC, Recommended by F1000 Prime

Fahlgren N, Bart R, Herrera-Estrella L, Rellán-Álvarez R, Chitwood DH, **Dinneny JR** (2016) Plant scientists: GM technology is safe. *Science* Feb 19;351(6275):824.

Rellán-Álvarez R, Lobet G, Lindner H, Pradier P-L, Sebastian J, Yee MC, Geng Y, Trontin C, LaRue T, Schrager A, Haney C, Nieu R, Maloof J, Vogel JP, **Dinneny JR** (2015) GLO-Roots: an imaging platform enabling multidimensional characterization of soil-grown root systems. *eLife* 2015;10.7554/eLife.07597**

**Highlighted in Nature Methods, SF Gate

Bao Y, Aggarwal P, Robbins II NE, Sturrock CJ, Thompson, MC, Tan HQ, Tham C, Rodriguez PL, Vernoux T, Mooney SJ, Bennett MJ, **Dinneny JR** (*2014*) Plant roots employ a patterning mechanism to position lateral root branches towards available water. *Proc. Natl. Acad. Sci.* Jun 24;111(25):9319-24.**

**Recommended F1000 Prime

Geng Y, Wu R, Wee CW, Xie F, Wei X, Chan PMY, Tham C, Duan L, **Dinneny JR** (2013) A Spatio-Temporal Understanding of Growth Regulation during the Salt Stress Response in Arabidopsis. *Plant Cell* Jun;25(6):2132-54**

**'Spotlight' in *Trends in Plant Science*, 10.1016/j.tplants.2013.08.009

Duan L, Dietrich D, Ng CH, Chan PMY, Bhalerao R, Bennett MJ, **Dinneny JR** (2013) Endodermal ABA signaling promotes lateral root quiescence during salt stress in Arabidopsis seedlings. *Plant Cell* Jan;25(1):324-41**

**'Spotlight' in *Trends in Plant Science*, 10.1016/j.tplants.2013.08.009

Dinneny JR, Long TA, Wang JY, Mace D, Pointer S, Barron C, Brady SM, Schiefelbein, JS, Benfey PN (2008) Cell identity mediates the response of Arabidopsis roots to abiotic stress. *Science* May 16;320(5878):942-5**

**'Perspectives' in *Science* 16;320:880-1, 'Research Highlights' in *Nature Genetics* 9, 414

Dinneny JR, Yadegari R, Fischer RL, Yanofsky MF, Weigel D (2004) The role of *JAGGED* in shaping lateral organs. *Development* 131, 1101-1110**

**'Previews' in *Developmental Cell* 6(3), 318-319

PUBLICATIONS- other primary research

Feldman MJ, Paul RE, Banan D, Barrett JF, Sebastian J, Yee MC, Jiang H, Lipka AE, Brutnell TP, **Dinneny JR**, Leakey ADB, Baxter I. (2017) Time dependent genetic analysis links field and controlled environment phenotypes in the model C4 grass Setaria. PLoS Genet. 2017 Jun 23;13(6):e1006841. doi: 10.1371/journal.pgen.1006841. eCollection 2017 Jun.

Pruitt RN, Joe A, Zhang W, Feng W, Stewart V, Schwessinger B, **Dinneny JR**, Ronald PC. (2017) A microbially derived tyrosine-sulfated peptide mimics a plant peptide hormone. New Phytol. 2017 Jul;215(2):725-736. doi: 10.1111/nph.14609. Epub 2017 May 30.

Dietrich D, Pang L, Kobayashi A, Fozard JA, Boudolf V, Bhosale R, Antoni R, Nguyen T, Hiratsuka S, Fujii N, Miyazawa Y, Bae TW, Wells DM, Owen MR, Band LR, Dyson RJ, Jensen OE, King JR, Tracy SR, Sturrock CJ, Mooney SJ, Roberts JA, Bhalerao RP, **Dinneny JR**, Rodriguez PL, Nagatani A, Hosokawa Y, Baskin TI, Pridmore TP, De Veylder L, Takahashi H, Bennett MJ (2017) Root hydrotropism is controlled via a cortex-specific growth mechanism. Nat Plants. 2017 May 8;3:17057. doi: 10.1038/nplants.2017.57.

Robbins II NE and **Dinneny J**. (2016). A Method to Analyze Local and Systemic Effects of Environmental Stimuli on Root Development in Plants. Bio-protocol 6(17): e1923. http://www.bio-protocol.org/e1923

Sebastian J, Wong MK, Tang E, **Dinneny JR**. (2014) Methods to Promote Germination of Dormant Setaria viridis seeds. *PLoS One* 18;9(4):e95109

Wang PL, Bao Y, Yee MC, Barrett SP, Hogan GJ, Olsen MN, **Dinneny JR**, Brown PO, Salzman J. (2014) Circular RNA is expressed across the eukaryotic tree of life. *PLoS One.* 7;9(3):e90859

Emami, S, Yee MC, **Dinneny JR** (2013) A robust family of Golden Gate Agrobacterium vectors for plant synthetic biology. *Front. Plant Sci.* 2;4:339

Orlando DA, Brady SM, Koch JD, **Dinneny JR**, Benfey PN (2009) Manipulating large-scale Arabidopsis microarray expression data: identifying dominant expression patterns and biological process enrichment. *Methods in Molecular Biology* 553:57-77

Filiault D, Wessinger C, **Dinneny JR**, Lutes J, Borevitz J, Weigel D, Chory J, and Maloof JN (2008) Amino acid polymorphisms in *Arabidopsis* Phytochrome B causes differential response to light. *Proc. Natl. Acad. Sci.* Feb 26;105(8):3157-62

Brady SM, Orlando D, Lee JY, Wang JY, Koch J, **Dinneny JR**, Mace D, Ohler U, Benfey PN (2007) A high-resolution root spatiotemporal map reveals dominant expression patterns. *Science* Nov 2;318(5851):801-6

Dinneny JR, Weigel D, Yanofsky MF (2006) *NUBBIN* and *JAGGED* define stamen and carpel shape in *Arabidopsis*. *Development* 133, 1645-1655**

**Cover issue

Dinneny JR, Weigel D, Yanofsky MF (2005) A genetic framework for fruit patterning in *Arabidopsis*. *Development* 132, 4687-4696**

**Cover issue

Wu X, **Dinneny JR**, Crawford KM, Rhee Y, Citovsky V, Zambryski PC, Weigel D (2003) Modes of intercellular transcription factor movement in the *Arabidopsis* apex. *Development* 130, 3735-3745.

Kiyosue T, Ohad N, Yadegari R, Hannon M, **Dinneny J**, Wells D, Katz A, Margossian L, Harada J, Goldberg R, Fischer RL (1999) Control of fertilization-independent-endosperm development by the *MEDEA* polycomb gene in *Arabidopsis*. *Proc. Natl. Acad. Sci.* 96, 4186-4191.

PUBLICATIONS- reviews and book chapters

Brophy JAN, LaRue T, **Dinneny JR** (2017) Understanding and engineering plant form. Seminars in Cell and Developmental Biology S1084-9521(17)30382-8. doi: 10.1016/j.semcdb.2017.08.051.

Sebastian J and **Dinneny JR** (2016) *Setaria viridis*: a Genetic Model System for Panicoideae Grass Root Systems. *Genetics and Genomics of Setaria, 19:177-193* Springer International Publishing

Feng W, Lindner H, Robbins II N, **Dinneny JR** (2016) Growing Out of Stress: The Role of Cell- and Organ-scale Growth Control in Plant Water-stress Responses. *The Plant Cell* dx.doi.org/10.1105/tpc.16.00182

Rellán-Álvarez R, Lobet G, **Dinneny JR** (2016) Environmental Control of Root System Biology. *Annual Review of Plant Biology* Vol. 67: 619-642

Dinneny JR (2015) A developmental biologist's journey to rediscover the Zen of plant physiology. F1000Research.

Robbins NE 2nd, **Dinneny JR** (2015) The divining root: moisture-driven responses of roots at the micro- and macro-scale. J Exp Bot. PMID: 25617469.

Dinneny JR (2015) Traversing organizational scales in plant salt-stress responses. *Curr. Opin. Plant Biol.* 23, 70-75.

Sebastian, J, Duan, L, **Dinneny JR** (2015) Salt-stress regulation of root system growth and architecture in Arabidopsis seedlings. *Methods Mol Biol.* 1242:105-22

Velasquez SM, **Dinneny JR**, Estevez JM. Live imaging of root hairs. *Methods Mol Biol.* 2015;1242:59-66.

Robbins, NR 2nd, Trontin C, Duan L, **Dinneny JR** (2014) Beyond the barrier: communication in the root through the endodermis. *Plant Physiol.* 166(2), 551-559.

Dinneny JR (2014) A gateway with a guard: how the endodermis regulates growth through hormone signaling. *Plant Sci.* 214, 14-19

Dinneny JR (2013) Cell-type resolution analysis of root development and environmental responses. *Roots and their soil interactions: What we can learn from genomics* Chapter 4: 63-78 Wiley Publishing

Wee CW and **Dinneny JR** (2010) Tools for high-spatial and temporal-resolution analysis of environmental responses in plants. *Biotechnol. Lett.* 32(10), 1361-1371

Dinneny JR (2010) Analysis of the salt-stress response at cell-type resolution. *Plant Cell & Environment* 1;33(4):543-51

Dinneny JR, Benfey PN (2009) Studying root development using a genomic approach. *Annual Plant Reviews, Volume 37, Root Development* Chapter 12: 325-351 Blackwell Publishing

Dinneny JR and Benfey PN (2008) Plant stem cell niches: standing the test of time. *Cell* Feb 22;132(4):553-7

Dinneny JR and Benfey PN, (2005) Stem cell research goes underground: the *RETINOBLASTOMA-RELATED* gene in root development. *Cell* 123, 1180-1182

Dinneny JR and Yanofsky MF (2005) Drawing lines and borders: how the dehiscent fruit of *Arabidopsis* is patterned. *Bioessays* 27, 42-49

Dinneny JR and Yanofsky MF (2004) Floral Development: An ABC Gene Chips in Downstream. *Curr. Biol.* 14, R840-R841

Dinneny JR and Yanofsky MF (2004) Vascular Patterning: Xylem or Phloem? *Curr. Biol.* 14, R112-R114

CURRENT FUNDING

U.S. Department of Energy
DE-SC 0000231349: Using systems approaches to improve photosynthesis and water use efficiency in sorghum
Awarded September, 2017

National Institutes of Health, Cellular Signaling and Response Systems Program
Signaling in Cell Expansion and Morphogenesis
Awarded March, 2017

U.S. Department of Energy, ARPA-e
1565-1555: Thermoacoustic Root Imaging, Biomass Analysis, and Characterization
Awarded December, 2016

Howard Hughes Medical Institute, Simons Foundation
HHMI-Simons Faculty Scholar
Awarded September, 2016

National Science Foundation, Integrated Organismal Systems
1238202: Natural Variation and Drought Responses in Developing Maize Inflorescences
Awarded April, 2013

U.S. Department of Energy
DE-SC0008769: A Systems-level analysis of drought and density response in the model C4 grass Setaria viridis
Awarded September, 2012

PAST FUNDING

National Science Foundation, Molecular and Cellular Biology
1157895: Collaborative Research: Salt-stress regulation of spatiotemporal gene expression patterns in the Arabidopsis root
Awarded May, 2012

AWARDS

Science News magazine's 2017 SN 10: Scientists to Watch list	October, 2017
HHMI-Simons Faculty Scholar	September, 2016
National Research Foundation Fellowship, Singapore	January, 2008
Ruth L. Kirschstein National Research Service Award (NIH)	May, 2005
UCSD Biology Division teaching award	July, 2002
Babcock Prize, College of Natural Resources, UCB	May, 2000
Phi Beta Kappa member	May, 2000
Howard Hughes Medical Institute Predoctoral Fellowship	April, 2000

EDITORIAL WORK

2013 - present	Monitoring Editor, Plant Physiology
2015	Guest Editor, PLoS Genetics
2011 – 2015	Associate Editor, Frontiers in Plant Physiology

TEACHING EXPERIENCE

Summer 2017	Frontiers and Techniques in Plant Science, CSHL
Winter 2017	BIOS 252, Understanding Plant-Environmental Responses, Stanford University
Summer 2016	Frontiers and Techniques in Plant Science, CSHL
Summer 2009/10	BL5221, Graduate module in Plant Biology, 1-2 lectures, TLL
Spring 2005	BICD 123 Plant Biology Lab, UCSD
Winter 2004	BICD 100 Genetics, UCSD
Spring 2002	BICD 101 Eukaryotic Genetics Lab, UCSD

PhD students advised (current position):
National University of Singapore: Lina Duan (post-doc), Yu Geng (post-doc), Rui Wu (post-doc), Bao Yun (Staff Scientist)
Stanford University: Neil Robbins II (post-doc)

COMMITTEE INVOLVMENT

2015-2020	Treasurer and Elected member, North American Arabidopsis Steering Committee (NAASC)
2014-2018	ASPB Science Policy Committee
2011-present	Seminar Committee, Carnegie DPB

GRANT PANEL PARTICIPATION

NSF (MCB, IOS), NIH (CSRS), European Union (F7), DOE (BER)

INVENTION DISCLOSURES

"Luciferase Reporter System for Roots and Methods of Using the Same." Patent application US20140051101, Jose R. Dinneny, Carnegie Institution of Washington (2012).

INVITED SEMINARS (2014-2017)

University of Tokyo, Japan, 2017
Japan Botanical Society, 2017
RIKEN, Yokohama, Japan, 2017
Nara Institute for Science and Technology, Japan, 2017
University of Georgia, Athens, Department of Plant Biology, 2017
Yale University, Department of Molecular, Cell and Developmental Biology, 2016
University of Washington, Department of Biology and Genome Sciences, 2016
Gordon Research Conference, Salt and Water Stress, Les Diablerets, Switzerland, 2016
Plant Gene Expression Center, USDA, Albany, 2016
University of Lincoln, Nebraska, Biotechnology seminar series, 2016
DOE JGI Annual User's Meeting, Walnut Creek, 2016
Washington State University, Pullman, Biology Graduate Student Symposium Keynote, 2016
ASPB Annual Meeting, Presidents Symposium, Minnesota, 2015
University of California, Riverside, Center for Plant Cell Biology, 2015
Shanghai Center for Plant Stress Biology, 2015
Institute of Botany, Beijing, 2015
Plant Responses to Stress International Symposium, CAU, Beijing, 2015
Donald Danforth Plant Science Center, 2015
University of Maryland, Department of Plant Science and Landscape Architecture, 2015
Salk Institute for Biological Science, La Jolla, CA, 2015
Cell-type specific proteomics workshop, Warwick University, Warwick, UK, 2014
International Arabidopsis Research Conference, Vancouver, CAN, 2014
Gordon Research Conference, Plant Molecular Biology, New Hampshire, 2014
Society for Experimental Biology, Annual Meeting, Manchester, UK, 2014
Pennsylvania State University, Department of Plant Sciences, State College, 2014
Cornell University, Graduate student invited speaker, Ithaca, 2014
Louisiana State University, Department of Biological Sciences, Baton Rouge, 2014

REFERENCES

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