

Curriculum Vitae 2018

ERIC D. BRENNER
Associate Professor
Biology Department
Dyson College of Arts and Science
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Education

B.S., Agronomy, University of Wisconsin, Madison WI, (1987)

B.S., Botany, University of Wisconsin, Madison, WI, (1987)

Ph.D., Plant Biology, University of California, Davis. (1998) Advisor: Dr. Valerie Williamson.

Appointments and professional history

Associate Professor, Department of Biology, Pace University (2017-present)

Clinical Assistant Professor, Department of Biology New York University (2009-2017)

Associated Professor, Department of Environmental Science, New York Univ. (2011-present)

Assistant Curator, The New York Botanical Garden (2004-2009)

Faculty of Plant Science and Visiting Professor, City Univ. of New York, Lehman (2007-2010)

Assistant Research Professor, New York University, (2002-2004).

Project Manager, Plant Genomics Consortium, New York Botanical Garden, NYU, Cold Spring Harbor Labs, American Museum of Natural History (2002-2009)

NIH Postdoctoral Fellow, New York University, (2000-2002)

Postdoctoral Scientist; New York University, (1998-2002) Advisor: Dr. Gloria Coruzzi

Teaching Experience

Teaching Assistant, Graduate Level Plant Molecular Biology, UC Davis	1991
Teaching Assistant, Introductory Nematology, UC Davis	1994
Lecturer, Introductory Botany Laboratory, UC Davis	1997
Professor, Concepts in Biological Research. HEOP minority program NYU	2003
Professor, Principles of Biology pre-course, HEOP minority program NYU	2003-2005
Professor, Principles of Biology II lecturer Plant Biology, NYU	2004, 2012-3
Professor, Principles of Biology II lecturer Plant Biology, NYU Evolution	2005
Professor, Principles of Biology II lecturer Plant Biology, NYU Ecology	2008
Professor, Principles of Biology prep, NYU HEOP minority program	2004-2006
Professor, The Living Environment, NYU	2004-2017
Professor, Molecular and Cellular Biology lecturer, Photosynthesis, NYU	2010-17
Professor and Recitation Leader, Molecular and Cellular Biology, NYU	2010-17
Professor, Genetics and Genomics At-the-Bench Laboratory, NYU	2011-17

Publications:

Brenner, E.D., Katari, M. S., Galtzeiler, A., Scheid, P., Carlton, J., “Next Generation Amplicon Analysis of the PTC locus.” *PLoS Computational Biology*, *In preparation*

Brenner, E.D. (2017) “Smart Phones for Teaching Plant Movement”, **American Biology Teacher**, 79: 740-745

Floyd, S.K., Ryan, J.G., Conway, S.J., **Brenner, E.D.**, Burris, K.P., Burris, J.N., Chen, T., Edger,

P.P., Graham, S.W., Leebens-Mack, J.J., Pires, J.C., Rothfels, C.J., Sigel, E.M, Stevenson, D.W., Stewart, C.N., Wong, G.K., Bowman, J.L. (2014) "Origin of a Novel Regulatory Module by Duplication and Degeneration of an Ancient Plant Transcription Factor" *Mol Phylogenet Evol*, 81:159-73

Brenner, E. D., Bargmann, B., Birnbaum, K., Brenner, E. D. (2014) A study of genes that promote lateral root formation, *Biochemistry and Molecular Biology Education*. 42(3) 237-45

Brenner, E. D., Herrera, A. R., Fitch, D. H. (2013) C. elegans for the Masses, *Wormclassroom.org*, Online article, <http://wormclassroom.org/c-elegans-masses>.

Cibrián-Jaramillo, A., Daly, A. C, **Brenner, E. D.**, DeSalle, Marler, R. T., (2010) When North and South don't mix: genetic connectivity of a recently endangered oceanic cycad, *Cycas micronesica*, in Guam. *Molecular Ecology* 19(12):2364-79

Fernando, D. D., Quinn, C. R., **Brenner, E. D.**, Owens, J. N. (2010) Male gametophyte development and evolution in gymnosperms, Invited Review *International Journal of Plant Developmental Biology* 4 (Special Issue): 47-63.

De la Torre, J. E, Kolokotronis S. O, , Lee E, Stevenson W. D., **Brenner E. D.**, Katari, M. S., Coruzzi G, DeSalle R. (2009) The impact of out-group choice and missing data on major seed plant phylogenetics using genome-wide EST data. *PLoS ONE* 4(6) e5764.

Brenner, E. D., Feinberg, P., Runko, S., Coruzzi, G. M. (2009) A point mutation in the *rpt3* (*recognition particle-3*) gene impairs glutamate receptor agonist, BMAA, mediated hypocotyl elongation in *Arabidopsis*, *Plant Molecular Biology*. 70:(5) 523-533.

Staves M., Mescher M., Shepherd V., **Brenner E. D.**, Van Volkenburgh, E., (2008). Symposia in Plant Neurobiology: A New Venue for Discussion of Plant Behavior and Communication, *Plant Science Bulletin*, 54: 3.

Cibrian, A., Marler, T., DeSalle, R., **Brenner E. D.** (2008) Development of EST-microsatellites from the cycad *Cycas rumphii*, and their use in the recently endangered *Cycas micronesica*. *Conservation Genetics*. 9:(4) 1051-1054.

Little, D. P., Moran, R. C., **Brenner E. D.**, Stevenson, D.W. (2007) Nuclear genome size in *Selaginella*, *Genome* 50: 351-356.

Brenner E. D., Stahlberg R., Mancuso S., Vivanco J., Baluska F, Van Volkenburgh E. (2006) Plant neurobiology: an integrated view of plant signaling. *Trends in Plant Science*, 11(8): 413-9

de la Torre J.E., Egan M.G., Katari M., **Brenner E. D.**, Stevenson D. W. Coruzzi G. M., Desalle R. (2006) ESTimating plant phylogeny: lessons from partitioning. *BMC Evolutionary Biology* 15;6 (1): 48

Jim Leebens-Mack, J., Vision, T., **Brenner E. D.**, Bowers J., Steven Cannon, S., Clement M. J., Cunningham C.W., Depamphilis C., Desalle, R., Doyle, J.J., Eisen, Xun Gu, J. A Harshman, J., Jansen, R. K., Kellogg, E. A, Koonin, E. V., Mishler, B. D., Hervé, P. J., Philippe, Pires, C. J., Yin-Long Qiu, Y. Rhee, S. Y., Sjölander, K., Soltis, D. E, Soltis, P. S., Stevenson, D. W., Wall, K., Warnow T., Zmasek, C. (2006) Taking the First Steps towards a Standard for Reporting on Phylogenies: Minimal Information about a Phylogenetic Analysis (MIAPA). *Omic*s 10 (2).

Brenner, E.D., Katari, M.S., Rudd, S.A., Stevenson, D.W., Douglas, A.W., Moss, W.N., Twigg, R.W., Runko, S.J., Stellari, G. M., McCombie, W.R., Coruzzi, G.M., (2005) EST analysis in *Ginkgo biloba*: an assessment of conserved developmental regulators and gymnosperm specific genes. *BMC Genomics*, 6: 43

Brenner, E.D., Stevenson, D.W., Twigg, R.W. (2003) Cycads: evolutionary innovations and the role of plant-derived neurotoxins. *Trends in Plant Science*. 8:(9) 446-452.

Brenner, E.D., Stevenson, D.W., McCombie, W.R., Katari, M.S., Rudd, S.A., Mayer, K.F.X., Pelenchar, P.M., Runko, S.J., Twigg, R.W., Dai, G., Martienssen, R.A., Benfey, P. N., Coruzzi, G. M. (2003) EST analysis in *Cycas*, the oldest living seed plant. *Genome Biology* 4(2) R78.

Chui, J.C., **Brenner, E.D.**, Nitaback, N.M., DeSalle, R., Holmes, T.C., Coruzzi, G.M. (2002) Phylogenetic and Expression Analysis of the Glutamate-Receptor-Like Gene Family in *Arabidopsis thaliana*. *Molecular Biology and Evolution*. 9:(7) 077-082.

Oliveira I.C., **Brenner E.D.**, Chiu J, Hsieh M-H., Kouranov A., Lam M-H, Shin M.J., Coruzzi G.M. (2000) Metabolite and light regulation of metabolism in plants: lessons from the study of a single biochemical pathway. *Brazilian Journal of Medical and Biological Research*. 34: 567-575.

Brenner E.D., Martinez-Barboza N., Clark, A.P., Liang., Q., Coruzzi G.M. (2000) Arabidopsis mutants resistant to BMAA, a cycad-derived glutamate receptor agonist. *Plant Physiology*. 24: 65-624.

Lambert, K.N., Ferrie, B.J., Nombela, G., **Brenner, E.D.**, Williamson, V.M., (1999) Identification of genes whose transcripts accumulate rapidly in tomato after root-knot nematode infection. *Physiological and Molecular Plant Pathology*. 55: 34-348.

Brenner, E.D., Lambert, K.N., Kaloshian, I, Williamson, V.M. (1998) Characterization of *LeMir*, a Root-Knot nematode induced gene in tomato with an encoded product secreted from the root. *Plant Physiology*. 8: 237-247

Book Chapters

McKenzie, A., and Brenner, E. D. (*In press*) Looking for Story. *In* Critical Reading Across the Curriculum, Vol. 2: Social and Natural Sciences, edited by Robert DiYanni and Anton Borst. Wiley & Sons

Brenner, E. D. and Stevenson D. W. (2005) Genomic Approaches to Study Seed Evolution in the Basal Gymnosperms. *In: Landscapes, Genomics & Transgenic Conifer Forests*. Springer Press.

Brenner, E.D., Stevenson, D.W., McCombie, W.R, Chiu, J., Runko, S.J., Palenchar, P.M., Coruzzi, G.M. 2007 Defining the role of BMAA and its potential glutamate receptor targets in *Arabidopsis thaliana* and *Cycas rumphii*. Proceedings of CYCAD2005, Ed: Vovides, AP, Stevenson, DW, Osborne, R., Memoirs of the New York Botanical Garden, Vol 97.

Brenner, E.D., Stevenson, D.W., Katari, M.S., McCombie, R.W., Rudd, S.A., Runko, S.J., Martienssen, R.A., Coruzzi, G.M., Genomic Studies in *Cycas rumphii*. 2007, Proceedings of

CYCAD2005, Proceedings of CYCAD2005, Ed: Vovides, AP, Stevenson, DW, Osborne, R., Memoirs of the New York Botanical Garden, Vol 97.

Chiu, J.C., **Brenner E. D.**, DeSalle, R., Barboza, N.M., Coruzzi, G.M, (2004) Analysis of Glutamate Receptor Genes in Plants: Progress and Prospects. *In* Glutamate Receptors in Peripheral Tissue, edited by Santokh Gill and Olga Pulido. Kluwer Academic / Plenum Publishers, New York.

Book Reviews

Brenner, E. D., (2002) Drugs in the plant. *Cell* 09: 680-68

Grants, Fellowships, Awards

- September 1, 2016-August 30, 2019. NSF IUSE, “*Plant Tracer*: a time-lapse App for students to visualize, quantify and report novel mutants in plant motion”, **PI Eric D. Brenner**, Co-PI, Yao Wang. Award amount \$300,000.
- June 1, 2016-May 30, 2017. NYU Curricular Development Challenge Fund, “*Plant Tracer*: an App to quantify plant movement in the POB Lab”, **PI, Eric D. Brenner**, Co-PI, Yao Wang, Award amount \$6,535.
- October 1, 2014-September 31, 2015 NYU Curricular Development Challenge Fund, “The Genetics of Root Gravitropism: Converting Plant Time into Lapse Time”, **Eric Brenner (PI)** Award Amount \$5000.
- October 1, 2013-September 31, 2014 NYU Curricular Development Challenge Fund, “The Use of Next Generation Sequencing Technology as a Tool in the Class Room at New York University Professor Carlton, Siegal, Tan, **Eric Brenner (Co-PI)**, Katari. Award amount, \$7000.
- October 1, 2011-September 31, 2012 NYU Curricular Development Challenge Fund, “Introducing Genetic Model Systems into the Principles of Biology Laboratory.” **Eric Brenner (PI)**, Dave Fitch (Co-PI) Award amount, \$5000.
- October 1, 2009-September 31, 2014, “Bigplant” **Eric Brenner** (as Senior Personnel – involvement inactive), Gloria Coruzzi (PI), Dennis Shasha (co-PI), Manpreet Katari (Senior Personnel), Dennis Stevenson (co-PI), Rob DeSalle (co-PI), Ernest Lee (Senior Personnel), Richard McCombie (co-PI), Rob Martienssen (co-PI) NSF Plant Genome \$6,390,886 over five years, \$865,653 to NYBG.
- January 2009, Bawd foundation to **Brenner** research program with Dr. Harry Harper, \$40,000 for equipment and research on Plant Electrophysiology.
- October 1, 2004- September 1, 2009, Gymnosperm genomics: the evolution of seeds. NSF Plant Genomics Program. \$5,000,000 to the Plant Genomics Consortium, PI, Gloria Coruzzi, Co-PIs, Dennis Stevenson, Dick McCombie, Rob DeSalle, Rob Martienssen, Dennis Sasha, Project Manager, Eric Brenner. \$1,483,674.00 to NYBG.
- September 1, 2006- August 31, 2009, Collaborator/Subcontractor, Genetic structure of *Cycas micronesica*, USDA-T-STAR program. \$150,000; \$75,000 to NYBG.
- September 1, 2006-August 31, 2008, Co-PI, Advancing Comparative Functional Genomics. NSF-funded NESCent Catalysis Meetings. \$60,000 (funded for meetings through the NESCent Center) 4 meetings held during the granting period at the NESCent Conference Center in Durham, NC.
- September 1, 2002-August 31, 2005, Ambrose Monell Foundation, Co-PI, Plant Genomics at The New York Botanical Garden. \$1 million
- September 1, 2003-August 31, 2005 Altria Group, Co-PI, The Plant Genomics Consortium at The New York Botanical Garden, \$120,000.

- September 1, 2006-August 31, 2008 Ambrose Monell Foundation Co-PI, Plant Genomics at The New York Botanical Garden. \$300,000
- September 1, 2001-August 31, 2004 Leon Lowenstein Foundation Research Award, Co-PI
- September 1, 2000-August 31, 2002 NIH Individual Postdoctoral Fellowship
- 1995-1996 Jastro Shields Graduate Research Fund Award.
- July, 1995, NIH Training Grant Research Conference Travel Fellowship
- 1994-1995 NIH Training Grant Travel Research Fellowship.
- 1993-1994 Jastro Shields Graduate Research Fund Award

Scientific Workshops

- January 5-9, 2015 NYU HITS Bioinformatics Workshop, NYU

Invited Presentations at Universities and Conferences

- November 1, 2017, Pace University, Pleasantville Campus Biology Department, NY
- October 18, 2017, Pace University, Manhattan Campus Biology/Tri-beta Seminar Series, NY
- November 3, 2017, Virginia Commonwealth University, Richmond, VA
- November 4, 2017, Lewis Ginter Botanical Garden, Richmond, VA
- March 1, 2015 Pace University, Pleasantville Campus, NY
- March 7-10, 2014 Society of Plant Signaling and Behavior, New Delhi, India
- July 20-24, 2012 American Society of Plant Biologists, San Antonio, Texas
- September 11, 2009, Rutgers University
- August 24, 2009, The Ben Gurion University of the Negev, The Jacob Blaustein Institutes for Desert Research, Israel
- August 15, 2009, Hebrew University, Jerusalem, Tel Aviv, Israel
- August 17, 2009, The Weizman Institute, Tel Aviv, Israel
- April 7-9, 2008, CSHL, New York, iPlant: Bringing Plant and Computing Scientists Together to Solve Plant Biology's Grand Challenges
- March 4, 2008, Rutgers, Newark, "Plant Neurobiology"
- January 14th, The 8th International Conference on Cycad Biology, "The Role of Glutamate Receptor Genes in Plants"
- January 15th, The 8th International Conference on Cycad Biology, "The Cycad (and Gymnosperm) Project"
- November 1, 2007, SUNY-Buffalo, "Integrated Plant Signaling and Plant Glutamate Receptors"
- October 31, 2007, NYU, Environmental Toxicology Course, "Plant Toxicology"
- March 6, 2007, Columbia University, NY, "Genomics of Seed Evolution"
- February 21, 2007 Seton Hall University, NJ, "Glutamate Receptors in Plants"
- February 15, 2007 CUNY-Lehman, "Glutamate Receptors in Plants"
- May 16, 2007, International Plant Neurobiology, Skopje, Slovakia. "A Continuum of Elements: Glutamate Receptors in Plants"
- January 14-18, 2007, Plant and Animal Genome XV Conference, Lower Plant Workshop, San Diego, "Genomic approaches to Study the Evolution of Seeds".
- January 4, 2007, Tri-institutional meeting, NYU, "Genomics of Seed Evolution".
- November 3, 2006, University of New Hampshire Zoology and Botany Seminar Series, Durham, New Hampshire. "Plant Neurobiology: An Integrated View of Plant Signaling"
- November 1, 2006, NYU-Environmental Toxicology Course, "Plant Toxicology"
- September 18-20, Advancing Comparative Functional Genomics, NSF-NESCent Meeting, Durham, North Carolina. "Phylogenomic Tools to Study the Evolution of Seeds".

- April 23, 2006, Tel Aviv University Seminar Series, Tel Aviv, Israel. “Gymnosperm Genomics”
- January 14-18, 2006, Plant and Animal Genome XIV Conference, San Diego. “Reproductive Genomics in the Basal Gymnosperms”
- July, 8-23, 2005, XVII International World Botanic Conference, Vienna, Austria. “Assessing the possibility of lateral gene transfer from cyanobacterial symbionts into cycads”
- May 8-20, 2005, The 1st International Symposium on Plant Neurobiology, Florence, Italy “Pharmacological approaches to studying glutamate receptors in plants”
- January 8-5, 2005, The 7th International Conference on Cycad Biology, Jalapa, Mexico. “Genomic approaches to measure neuroactive compounds in cycads”
- November 7-9 2004, Nicholas School's Forum on Transgenic Conifer Forests, Duke University, Durham, NC. “Expression analysis of genes involved in microgametophyte development in the most primitive, extant seed-plants”
- June 24, 2004, NYU, Howard Hughes/Beckman Summer Institute, New York University, New York, NY. “Analysis of Neuroactive Compounds and their Receptors in Plants”
- September 2-24, 2003, Regulation of Inflorescence Development, Cold Spring Harbor, Banbury, NY. “EST Analysis in Cycads and *Ginkgo*: Gene Expression and the Evolution of Seeds”

Scientific Societies

Society for Plant Neurobiology-Organizing Committee
 Member of the American Society of Plant Biologists
 Member New York Academy of Sciences

Editorial Service

Plant Signaling and Behavior-Associate Editor
 Annals of Botany-Member of International Review Board
 Molecular Genetics and Genomics-Reviewer
 Plant Molecular Biology
 BMC Genomics-Reviewer
 Plant Physiology-Reviewer
 Plant Journal-Reviewer
 Archives of Biochemistry and Biophysics-Reviewer
 Horticultural Science-Reviewer
 New Phytologist-Reviewer
 Pharmacology and Therapeutics
 Taxon

Grant Review

NSF-Growth and Development
 USDA
 BARD - Binational Agricultural Research & Development Fund
 BSF - United States- Israel Bi-national Science Foundation

Academic Service

Plant Sciences Advisory Committee CUNY Lehman College
 NYBG Seminar Series Sept 2006-present
 Scientific Liaison Sloan Foundation Film Tisch Writing Program 2013-present
 Department Safety Committee

Popular Press Interviews

New York Times Science Times, June 10, 2008, "Loyal to its Roots"

Die Presse, July 18, 2008 *Botanik: Jaben Pflanzen ein Gehirn?*

Science News, June 20, 2009 "No Brainer Behavior".

New Yorker, December 2013, "The Intelligent Plant" Interviewed and quoted by author Michael Pollan