

John E. McLaughlin
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EDUCATION

University of Minnesota

St. Paul, MN

Ph.D., Plant Breeding and Genetics, August 2006.

Advisors: Professors Ronald Phillips and Friedrich Sreenc

Dissertation title: Genetic Analysis of Variation in Endosperm Cell Number and Endoreduplication in Maize (*Zea mays* L.)

M.S., Plant Breeding and Genetics, November 1997.

Advisor: Professor Ronald Phillips

Thesis title: Investigation of Genomic Regions Controlling Maturity in Maize (*Zea mays* L.) Using an Advanced Backcross-Derived Population.

Moravian College

Bethlehem, PA

B.S., Major: Biology, Minor: Chemistry, May 1993.

Senior Scholar-Athlete of the Year (1993)

PROFESSIONAL EXPERIENCE:

Assistant Research Professor, Rutgers University, Oct. 2019-present (Dr. Nilgun Tumer)

Research Associate, Rutgers University, Dec. 2012- Oct. 2019 (Dr. Nilgun Tumer)

Research Assistant, Rutgers University, Jan. 2010-December 2012 (Dr. Nilgun Tumer)

Postdoctoral Associate, Rutgers University, Jan. 2007-Dec. 2009 (Dr. Nilgun Tumer)

Research Associate, University of Delaware, 1999-2003 (Dr. John Boyer)

Research Assistant, University of Minnesota, 1993-1999 (Dr. Ronald Phillips)

Computer experience includes the use of R, SAS, MS Office, Origin, Adobe CC

Teaching

Co-creator and instructor in Advanced Plant Breeding- Quantitative genetics

(16:765:528), Rutgers University (2015, 2017, 2019) (with Dr. Stacy Bonos)

Instructor in Plant Pathogenesis (16:765:538), Rutgers University (2009-2019)

(Drs. Nilgun Tumer and Eric Lam)

Guest lecturer in Concepts in Biotechnology and Genomics (16:137:615), Rutgers University (2011-2019) (Drs. Paul Meers and Michael Lawton)

Instructor in SEBS Portals for Academic Success, Rutgers University, 2011 and 2012
Spring Semesters (Dr. Suzanne Sukhdeo)
Guest lecturer in Introduction to Plant Biology (16:765:501), Rutgers University (2012)
(Dr. Ning Zhang)
Guest lecturer at Science Park High School (Newark NJ), AP Biology lectures on yeast
genetics and chemical genomics (2011-2014) Dr. Kristi MacDonald
Teaching Assistant, University of Minnesota (1998)
Supervised recitation section of Field Plot Design/Statistics course (Dr. Deon
Stuthman)
Teaching Assistant, University of Minnesota (1996) Prepared and taught laboratory for
graduate Cytogenetics (Drs. Oscar Riera-Lizarazu/Ronald Phillips)

Professional development and service

University Hearing Board and Campus Appeal Committee (2020-present)
SEBS Diversity, Communications, and Philanthropy Committee (2016-present)
Member of the Rutgers Institutional Biosafety Committee (2015-present)
Cold Spring Harbor Yeast Genetics Course (2008)
Biacore Basics Course, GE Healthcare (2007)
NIH Biotechnology Trainee (1995-1998)
Bioethics/Responsible and Successful Conduct of Research Short Course (1997)
Metabolic Flux Analysis Short Course, University of Minnesota (1995)

Publications

- Pierce, M., Vengsarkar, D., McLaughlin, J. E., Kahn, J. N., & Tumer, N. E. (2019). Ribosome depurination by ricin leads to inhibition of endoplasmic reticulum stress-induced HAC1 mRNA splicing on the ribosome. *Journal of Biological Chemistry*, 294(47), 17848-17862.
- Zhou, Y., Li, X. P., Kahn, J. N., McLaughlin, J. E., & Tumer, N. E. (2019). Leucine 232 and hydrophobic residues at the ribosomal P stalk binding site are critical for biological activity of ricin. *Bioscience reports*, 39(10).
- McLaughlin, J. E., Bin-Umer, M. A., Widiez, T., Finn, D., McCormick, S., & Tumer, N. E. (2015). A lipid transfer protein increases the glutathione content and enhances Arabidopsis resistance to a trichothecene mycotoxin. *PloS one*, 10(6), e0130204.
- Bin Umer, A, McLaughlin, JE, Butterly, M., McCormick, S. and Tumer, NE. 2014. Elimination of damaged mitochondria through mitophagy reduces mitochondrial oxidative stress and increases tolerance to trichothecenes. *PNAS*. 111: 11798–11803.
- Bin-Umer, M.A., McLaughlin, J.E., Basu, D., McCormick, S., Tumer, N.E. Trichothecene mycotoxins inhibit mitochondrial translation—Implication for the mechanism of toxicity. *Toxins* 2011, 3, 1484-1501.

- Pang YP, Park JG, Wang S, Vummenthala A, Mishra RK, McLaughlin JE, Di R, Kahn JN, Tumer NE, Janosi L, Davis J, Millard CB. (2011) Small-molecule inhibitor leads of ribosome-inactivating proteins developed using the doorstep approach. PLoS One. Mar 24;6(3):e17883.
- McLaughlin, JE, Bin Umer, A, Tortora, A., Mendez, N., McCormick, S. and Tumer, NE. 2009. A genome-wide screen in *S. cerevisiae* reveals a critical role for the mitochondria in the toxicity of a trichothecene mycotoxin. PNAS. 106:21883-21888.
- Boyer JS, McLaughlin JE. 2007. Functional reversion to identify controlling genes in multigenic responses: analysis of floral abortion. Journal of Experimental Botany. 58: 267-277.
- Makela, P, McLaughlin JE, and Boyer JS. 2005. Imaging and quantifying carbohydrate transport to the developing ovaries of maize. Annals of Botany. 96: 939-949.
- McLaughlin JE, Boyer JS. 2004. Glucose localization in maize ovaries when kernel number decreases at low water potential and sucrose is fed to the stems. Annals of Botany 94: 75-86.
- McLaughlin JE, Boyer JS. 2004. Sugar-responsive gene expression, invertase activity, and senescence in aborting maize ovaries at low water potentials. Annals of Botany 94: 675-689.
- Vladutu CI, McLaughlin J, and Phillips RL. 1999. Fine mapping and characterization of linked QTLs involved in the transition of the maize apical meristem from vegetative to generative structures. Genetics 153: 993-1007.