Stanford

Virginia Walbot

Professor of Biology, Emerita

Curriculum Vitae available Online Resume available Online

CONTACT INFORMATION

- **Alternate Contact**

  Alexandra Bloom - Administrative Assistant

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Bio

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Biology
- Member, Bio-X
- Affiliate, Stanford Woods Institute for the Environment

ADMINISTRATIVE APPOINTMENTS

- Adjunct Staff Member, Carnegie Institution for Science, Department of Plant Biology, (2016-2020)
- Committee on Research, Stanford, (2016-2019)
- Committee on Research, Stanford University, (2016-2019)
- Representative to the Global Plant Council, American Society of Plant Biology, (2016-2019)
- Committee on Health and Safety, Stanford University, (2014-2016)
- Elected to Faculty Senate, Stanford, (2009-2011)
- Elected to the Steering Committee of the Faculty Senate, Stanford, (2009-2011)
- Committee on Research, Stanford, (2003-2005)
- Committee on Committees, Stanford, (2000-2001)
- Elected to Faculty Senate, Stanford, (1999-2001)

HONORS AND AWARDS

- Predoctoral fellowship, NSF (1969-1972)
- Postdoctoral Fellowship, NIH (1972-1975)
- Fellow, American Assn. Advancement of Science (1981)
- Belk Award, Miami University of Ohio (1985)
- Lamb Award, University of Nebraska (1985)
- Fellow, Guggenheim Foundation (1987)

- Eppley Award, Eppley Foundation (1993)
- Explorer Award, National Geographic Society (1998)
- Joan V. Wood Lectureship, Indiana University (1999)
- Hageman Lectureship, Kansas State University (2001)
- Cooresponding Member, Mexican Academy of Sciences (2004)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Committee Member, Stanford Committee on Research (2016 - present)
- Representative, American Society Plant Biology to the Global Plant Council (2016 - present)

PROGRAM AFFILIATIONS

- Center for Latin American Studies

PROFESSIONAL EDUCATION

- Postdoc, Univ. Georgia , Biochemistry (1975)
- Ph.D., Yale University , Biology (1972)
- M. Phil., Yale University , Biology (1969)
- A. B., Stanford , Biology (1967)

COMMUNITY AND INTERNATIONAL WORK

- UV-B Irradiation, Stanford
- Corn cancer caused by Ustilago maydis, Stanford CA
- Cell Fate Acquisition, Cal Poly and Stanford
- DNA Methylation Society

LINKS

- Walbot Lab: http://web.stanford.edu/~walbot/

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Research Interests

The key features of plant development are that the body plan is indefinite, with continual stem cell activity producing new organs, and that there is an alternation of generations in which the phenotypes of haploid cells are determined mainly by their genotype. These life cycle features allow somatic and gametic selection to operate more stringently than in complex animals with a fixed body plan and in animal gametes. Historically our primary focus has been the regulation of MuDR/Mu transposable elements in the context of the maize life cycle. The transposons switch from "cut and paste" to a net replicative mode of transposition in cells that have acquired pre-meiotic fate. To understand how MuDR/Mu exploit this cell fate specification event, we swtiched to studying cell fate specification in maize anthers to understand the basic biology of this organ.

Plants do not have a germ line. Instead, within each flower a small number of somatic cells must be programmed to adopt a pre-meiotic fate. On the male side, this cell fate specification event occurs in the anthers when pluripotent stem cells become archesporial cells. The anther lobes have just 5 cell types, including the cells that ultimately undergo meiosis. Using a panel of male sterile mutants, transcriptome profiling, proteomics, and genetic analysis we are defining how these archesporial and somatic cells acquire their fates, and then maintain them. We recently discovered that hypoxia, generating a signal mediated by the MSCA1 glutaredoxin, establishes

which cells differentiate as pre-meiotic cells and then in turn program the somatic niche surrounding them using a secreted protein. Mobile secreted proteins play key roles in establishing cell fate and programming particular cell division patterns. MAC1 also inhibits archesporial cell division -- either directly or as a consequence of somatic differentiation -- until there is an entire column of such cells in each anther lobe; then the archesporial cells start transit amplifying divisions and a 5 days later start meiosis synchronously.

Using additional mutants and laser capture microdissection we are analyzing the steps in differentiation of individual cell types and investigating whether there are changes in DNA methylation. We are particularly interested in characteristics of the archesporial cells and the neighboring tapetum. Many male sterile mutants have defects in tapetal cell fate specification, commitment, or differentiation, later resulting in meiotic arrest. Our most intriguing finding about the archesporial cells is that as soon as they are specified they being making both the mRNA and proteins utilized in meiosis.

We have intriguing clues that a novel type of small RNA (phasiRNAs = phased small RNAs of 21 or 24 nucleotides) are critical for early steps in in anther development. PHAS loci are non repetitive, transcribed by RNA Pol II but do not encode proteins; the long non-coding transcript is processed into precisely the same 21 or 24 nt pieces by the binding of a 22 nt trigger molecule and the action of a specific Dicers (DCL4 for the 21 nt type and DCL5 for the 24 nt class). Only grass anthers produce the 24 nt phasiRNAs, and in maize they appear shortly before the start of meiosis. Based on current evidence, we hypothesize that epidermal cells make the 21 nt phasiRNAs and the tapetal cells adjacent to the meiotic cells make the 24 nt phasiRNAs. Genetic and molecular approaches are being used to discover the functions of these fascinating small molecules.

Teaching

COURSES

2021-22

- Fundamentals and Frontiers in Plant Biology: BIO 129, BIO 229 (Spr)

2020-21

- Plant Biology Seminar: BIO 342 (Spr)
- Visions of Paradise: Garden Design: BIO 24N (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Vivian Zhong

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biology (School of Humanities and Sciences) (Phd Program)
- Cancer Biology (Phd Program)

Publications

PUBLICATIONS

- **Anther Development - The Long Road to Making Pollen.** *The Plant cell*
  Marchant, D. B., Walbot, V.
  2022
- **24-nt phasiRNAs move from tapetal to meiotic cells in maize anthers.** *The New phytologist*
  Zhou, X., Huang, K., Teng, C., Abdelgawad, A., Batish, M., Meyers, B. C., Walbot, V.
  2022

- **Gametophyte genome activation occurs at pollen mitosis I in maize.** *Science (New York, N.Y.)*
  Nelms, B., Walbot, V.
  1800; 375 (6579): 424-429
- **A cascade of bHLH-regulated pathways program maize anther development.** *The Plant cell*
  Nan, G., Teng, C., Fernandes, J., O'Connor, L., Meyers, B. C., Walbot, V.
  1800
- **Dicer-like 5 deficiency confers temperature-sensitive male sterility in maize.** *Nature communications*
  Teng, C., Zhang, H., Hammond, R., Huang, K., Meyers, B. C., Walbot, V.
  2020; 11 (1): 2912
- **Defining the developmental program leading to meiosis in maize** *SCIENCE*
  Nelms, B., Walbot, V.
  2019; 364 (6435): 52-+
- **Defining the developmental program leading to meiosis in maize.** *Science (New York, N.Y.)*
  Nelms, B., Walbot, V.
  2019; 364 (6435): 52–56
- **Pre-meiotic anther development** *PLANT DEVELOPMENT AND EVOLUTION*
  van der Linde, K., Walbot, V., Grossniklaus, U.
  2019; 131: 239-+
- **Pre-meiotic anther development.** *Current topics in developmental biology*
  van der Linde, K., Walbot, V.
  2019; 131: 239–56
- **Sugar partitioning between Ustilago maydis and its host Zea mays L during infection.** *Plant physiology*
  Sosso, D., Van Der Linde, K., Bezrutczyk, M., Schuler, D., Schneider, K., Kamper, J. T., Walbot, V.
  2018
- **Pathogen Trojan Horse Delivers Bioactive Host Protein to Alter Maize Anther Cell Behavior in Situ** *PLANT CELL*
  van der Linde, K., Timofejeva, L., Egger, R. L., Ilau, B., Hammond, R., Teng, C., Meyers, B. C., Doehlemann, G., Walbot, V.
  2018; 30 (3): 528–42
- **How to make a tumour: cell type specific dissection of Ustilago maydis-induced tumour development in maize leaves** *NEW PHYTOLOGIST*
  Matei, A., Ernst, C., Guenl, M., Thiele, B., Altmueller, J., Walbot, V., Usadel, B., Doehlemann, G.
  2018; 217 (4): 1681–95
- **MS23, a master basic helix-loop-helix factor, regulates the specification and development of the tapetum in maize** *DEVELOPMENT*
  Nan, G., Zhai, J., Arikit, S., Morrow, D., Fernandes, J., Mai, L., Nhi Nguyen, N., Meyers, B. C., Walbot, V.
  2017; 144 (1): 163-172
- **A framework for evaluating developmental defects at the cellular level: An example from ten maize anther mutants using morphological and molecular data** *DEVELOPMENTAL BIOLOGY*
  Egger, R. L., Walbot, V.
  2016; 419 (1): 26-40
- **Advancing Crop Transformation in the Era of Genome Editing.** *Plant cell*
  Altpeter, F., Springer, N. M., Bartley, L. E., Blechl, A. E., Brutnell, T. P., Citovsky, V., Conrad, L. J., Gelvin, S. B., Jackson, D. P., Kausch, A. P., Lemaux, P. G., Medford, J. I., Orozco-Cárdenas, et al
  2016; 28 (7): 1510-1520
- **Pre-Meiotic Anther Development: Cell Fate Specification and Differentiation** *ANNUAL REVIEW OF PLANT BIOLOGY, VOL 67*
  Walbot, V., Egger, R. L.
  2016; 67: 365-395
- **Spatiotemporally dynamic, cell-type-dependent premeiotic and meiotic phasiRNAs in maize anthers.** *Proceedings of the National Academy of Sciences of the United States of America*

Zhai, J., Zhang, H., Arikit, S., Huang, K., Nan, G., Walbot, V., Meyers, B. C.
2015; 112 (10): 3146-3151

- **Unresolved issues in pre-meiotic anther development** *FRONTIERS IN PLANT SCIENCE*
  Kelliher, T., Egger, R. L., Zhang, H., Walbot, V.
  2014; 5
- **Sequencing and de novo assembly of a Dahlia hybrid cultivar transcriptome.** *Frontiers in plant science*
  Lehnert, E. M., Walbot, V.
  2014; 5: 340
- **Transcriptomes and Proteomes Define Gene Expression Progression in Pre-meiotic Maize Anthers** *G3-GENES GENOMES GENETICS*
  Zhang, H., Egger, R. L., Kelliher, T., Morrow, D., Fernandes, J., Nan, G., Walbot, V.
  2014; 4 (6): 993-1010
- **Transcriptomes and proteomes define gene expression progression in pre-meiotic maize anthers.** *G3 (Bethesda, Md.)*
  Zhang, H., Egger, R. L., Kelliher, T., Morrow, D., Fernandes, J., Nan, G., Walbot, V.
  2014; 4 (6): 993-1010
- **Maize germinal cell initials accommodate hypoxia and precociously express meiotic genes** *PLANT JOURNAL*
  Kelliher, T., Walbot, V.
  2014; 77 (4): 639-652
- **Using MuDR/Mu transposons in directed tagging strategies.** *Methods in molecular biology (Clifton, N.J.)*
  Walbot, V., Qüesta, J.
  2013; 1057: 143-55
- **Distinguishing variable phenotypes from variegation caused by transposon activities.** *Methods in molecular biology (Clifton, N.J.)*
  Walbot, V.
  2013; 1057: 11-20
- **Hypoxia Triggers Meiotic Fate Acquisition in Maize** *SCIENCE*
  Kelliher, T., Walbot, V.
  2012; 337 (6092): 345-348
- **Global transcriptome analysis of two ameiotic1 alleles in maize anthers: defining steps in meiotic entry and progression through prophase I** *BMC PLANT BIOLOGY*
  Nan, G., Ronceret, A., Wang, R. C., Fernandes, J. F., Cande, W. Z., Walbot, V.
  2011; 11
- **Emergence and patterning of the five cell types of the Zea mays anther locule** *DEVELOPMENTAL BIOLOGY*
  Kelliher, T., Walbot, V.
  2011; 350 (1): 32-49
- **The male sterile 8 mutation of maize disrupts the temporal progression of the transcriptome and results in the mis-regulation of metabolic functions** *PLANT JOURNAL*
  Wang, D., Oses-Prieto, J. A., Li, K. H., Fernandes, J. F., Burlingame, A. L., Walbot, V.
  2010; 63 (6): 939-951
- **Maize Tumors Caused by Ustilago maydis Require Organ-Specific Genes in Host and Pathogen** *SCIENCE*
  Skibbe, D. S., Doehlemann, G., Fernandes, J., Walbot, V.
  2010; 328 (5974): 89-92
- **Maize host requirements for Ustilago maydis tumor induction** *SEXUAL PLANT REPRODUCTION*
  Walbot, V., Skibbe, D. S.
  2010; 23 (1): 1-13
- **Mutator transposon activity reprograms the transcriptomes and proteomes of developing maize anthers** *PLANT JOURNAL*
  Skibbe, D. S., Fernandes, J. F., Medzihradszky, K. F., Burlingame, A. L., Walbot, V.
  2009; 59 (4): 622-633

- **Are we training pit bulls to review our manuscripts?** *Journal of biology*
  Walbot, V.
  2009; 8 (3): 24-?
- **Transcriptome profiling of maize anthers using genetic ablation to analyze pre-meiotic and tapetal cell types** *PLANT JOURNAL*
  Ma, J., Duncan, D., Morrow, D. J., Fernandes, J., Walbot, V.
  2007; 50 (4): 637-648
- **Genome-wide analysis of high-altitude maize and gene knockdown stocks implicates chromatin remodeling proteins in response to UV-B** *PLANT JOURNAL*
  Casati, P., Stapleton, A. E., Blum, J. E., Walbot, V.
  2006; 46 (4): 613-627
- **Comparative profiling of the sense and antisense transcriptome of maize lines** *GENOME BIOLOGY*
  Ma, J., Morrow, D. J., FERNANDES, J., Walbot, V.
  2006; 7 (3)
- **Unique features of the plant life cycle and their consequences** *NATURE REVIEWS GENETICS*
  Walbot, V., Evans, M. M.
  2003; 4 (5): 369-379
- **Initiation of silencing of maize MuDR/Mu transposable elements** *PLANT JOURNAL*
  Rudenko, G. N., Ono, A., Walbot, V.
  2003; 33 (6): 1013-1025
- **PHENOTYPES MEDIATED BY THE IOJAP GENOTYPE IN MAIZE.** *American journal of botany*
  Coe, E. H., Thompson, D., Walbot, V.
  1988; 75 (5): 634-644
- **Coexpression network and trans-activation analyses of maize reproductive phasiRNA loci.** *The Plant journal : for cell and molecular biology*
  Zhan, J., O'Connor, L., Marchant, D. B., Teng, C., Walbot, V., Meyers, B. C.
  2022
- **Transgenerational conditioned male fertility of HD-ZIP IV transcription factor mutant ocl4: impact on 21-nt phasiRNA accumulation in pre-meiotic maize anthers.** *Plant reproduction*
  Yadava, P., Tamim, S., Zhang, H., Teng, C., Zhou, X., Meyers, B. C., Walbot, V.
  2021
- **Crowdsourcing biocuration: The Community Assessment of Community Annotation with Ontologies (CACAO).** *PLoS computational biology*
  Ramsey, J., McIntosh, B., Renfro, D., Aleksander, S. A., LaBonte, S., Ross, C., Zweifel, A. E., Liles, N., Farrar, S., Gill, J. J., Erill, I., Ades, S., Berardini, et al
  2021; 17 (10): e1009463
- **Understanding Ustilago maydis Infection of Multiple Maize Organs.** *Journal of fungi (Basel, Switzerland)*
  Ferris, A. C., Walbot, V.
  2020; 7 (1)
- **CHH DNA methylation increases at 24-PHAS loci depend on 24-nt phasiRNAs in maize meiotic anthers.** *The New phytologist*
  Zhang, M., Ma, X., Wang, C., Li, Q., Meyers, B. C., Springer, N. M., Walbot, V.
  2020
- **Sugar Partitioning between Ustilago maydis and Its Host Zea mays L during Infection** *PLANT PHYSIOLOGY*
  Sosso, D., van der Linde, K., Bezrutczyk, M., Schuler, D., Schneider, K., Kaemper, J., Walbot, V.
  2019; 179 (4): 1373–85
- **Application of the pathogen Trojan horse approach in maize (Zea mays).** *Plant signaling & behavior*
  van der Linde, K., Egger, R. L., Timofejeva, L., Walbot, V.
  2018: 1–4
- **An Agrobacterium-delivered CRISPR/Cas9 system for high-frequency targeted mutagenesis in maize.** *Plant biotechnology journal*
  Char, S. N., Neelakandan, A. K., Nahampun, H., Frame, B., Main, M., Spalding, M. H., Becraft, P. W., Meyers, B. C., Walbot, V., Wang, K., Yang, B.

2017; 15 (2): 257-268

- **Chloroplasts in anther endothecium of Zea mays (Poaceae)** *AMERICAN JOURNAL OF BOTANY*
  Murphy, K. M., Egger, R. L., Walbot, V.
  2015; 102 (11): 1931-1937
- **Evolution, functions, and mysteries of plant ARGONAUTE proteins** *CURRENT OPINION IN PLANT BIOLOGY*
  Zhang, H., Xia, R., Meyers, B. C., Walbot, V.
  2015; 27: 84-90
- **A Secreted Effector Protein of Ustilago maydis Guides Maize Leaf Cells to Form Tumors** *PLANT CELL*
  Redkar, A., Hoser, R., Schilling, L., Zechmann, B., Krzymowska, M., Walbot, V., Doehlemann, G.
  2015; 27 (4): 1332-1351
- **Quantifying Zea mays L tassel development and correlation with anther developmental stages as a guide for experimental studies** *MAYDICA*
  Egger, R. L., Walbot, V.
  2015; 60 (4): M34-?
- **Virulence of the maize smut Ustilago maydis is shaped by organ-specific effectors** *MOLECULAR PLANT PATHOLOGY*
  Schilling, L., Matei, A., Redkar, A., Walbot, V., Doehlemann, G.
  2014; 15 (8): 780-789
- **Unresolved issues in pre-meiotic anther development.** *Frontiers in plant science*
  Kelliher, T., Egger, R. L., Zhang, H., Walbot, V.
  2014; 5: 347-?
- **Maize Male sterile 8 (Ms8), a putative beta-1,3-galactosyltransferase, modulates cell division, expansion, and differentiation during early maize anther development** *PLANT REPRODUCTION*
  Wang, D., Skibbe, D. S., Walbot, V.
  2013; 26 (4): 329-338
- **Regulation of cell divisions and differentiation by MALE STERILITY32 is required for anther development in maize** *PLANT JOURNAL*
  Moon, J., Skibbe, D., Timofejeva, L., Wang, C. R., Kelliher, T., Kremling, K., Walbot, V., Cande, W. Z.
  2013; 76 (4): 592-602
- **Ustilago maydis reprograms cell proliferation in maize anthers** *PLANT JOURNAL*
  Gao, L., Kelliher, T., Nguyen, L., Walbot, V.
  2013; 75 (6): 903-914
- **Domesticating the beast** *BMC BIOLOGY*
  Walbot, V.
  2013; 11
- **Open questions: Reflections on plant development and genetics** *BMC BIOLOGY*
  Walbot, V.
  2013; 11
- **Cytological Characterization and Allelism Testing of Anther Developmental Mutants Identified in a Screen of Maize Male Sterile Lines** *G3-GENES GENOMES GENETICS*
  Timofejeva, L., Skibbe, D. S., Lee, S., Golubovskaya, I., Wang, R., Harper, L., Walbot, V., Cande, W. Z.
  2013; 3 (2): 231-249
- **What determines cell size?** *BMC BIOLOGY*
  Marshall, W. F., Young, K. D., Swaffer, M., Wood, E., Nurse, P., Kimura, A., Frankel, J., Wallingford, J., Walbot, V., Qu, X., Roeder, A. H.
  2012; 10
- **A low molecular weight proteome comparison of fertile and male sterile 8 anthers of Zea mays** *PLANT BIOTECHNOLOGY JOURNAL*
  Wang, D., Adams, C. M., Fernandes, J. F., Egger, R. L., Walbot, V.
  2012; 10 (8): 925-935

- **Maize multiple archesporial cells 1 (mac1), an ortholog of rice TDL1A, modulates cell proliferation and identity in early anther development** *DEVELOPMENT*
  Wang, C. R., Nan, G., Kelliher, T., Timofejeva, L., Vernoud, V., Golubovskaya, I. N., Harper, L., Egger, R., Walbot, V., Cande, W. Z.
  2012; 139 (14): 2594-2603

- **Mu killer-Mediated and Spontaneous Silencing of Zea mays Mutator Family Transposable Elements Define Distinctive Paths of Epigenetic Inactivation.** *Frontiers in plant science*
  Skibbe, D. S., Fernandes, J. F., Walbot, V.
  2012; 3: 212-?

- **Mu killer-mediated and spontaneous silencing of Zea mays mutator family transposable elements define distinctive paths of epigenetic inactivation** *FRONTIERS IN PLANT SCIENCE*
  Skibbe, D. S., Fernandes, J. F., Walbot, V.
  2012; 3

- **Maize csmd1 exhibits pre-meiotic somatic and post-meiotic microspore and somatic defects but sustains anther growth** *SEXUAL PLANT REPRODUCTION*
  Wang, D., Skibbe, D. S., Walbot, V.
  2011; 24 (4): 297-306

- **How plants cope with temperature stress** *BMC BIOLOGY*
  Walbot, V.
  2011; 9

- **Transcriptomic, proteomic and metabolomic analysis of maize responses to UV-B: comparison of greenhouse and field growth conditions.** *Plant signaling & behavior*
  Casati, P., Campi, M., Morrow, D. J., Fernandes, J., Walbot, V.
  2011; 6 (8): 1146-1153

- **Transcriptomic, proteomic and metabolomic analysis of UV-B signaling in maize** *BMC GENOMICS*
  Casati, P., Campi, M., Morrow, D. J., Fernandes, J. F., Walbot, V.
  2011; 12

- **GRFT - Genetic Records Family Tree Web Applet.** *Frontiers in genetics*
  Pimentel, S., Walbot, V., Fernandes, J.
  2011; 2: 14-?

- **Rapid maize leaf and immature ear responses to UV-B radiation** *FRONTIERS IN PLANT SCIENCE*
  Casati, P., Morrow, D. J., Fernandes, J. F., Walbot, V.
  2011; 2

- **Mutator transposon activation after UV-B involves chromatin remodeling** *EPIGENETICS*
  Queesta, J. I., Walbot, V., Casati, P.
  2010; 5 (4): 352-363

- **10 Reasons to be Tantalized by the B73 Maize Genome** *PLOS GENETICS*
  Walbot, V.
  2009; 5 (11)

- **Sequencing, Mapping, and Analysis of 27,455 Maize Full-Length cDNAs** *PLOS GENETICS*
  Soderlund, C., Descour, A., Kudrna, D., Bomhoff, M., Boyd, L., Currie, J., Angelova, A., Collura, K., Wissotski, M., Ashley, E., Morrow, D., Fernandes, J., Walbot, et al
  2009; 5 (11)

- **Clusters and superclusters of phased small RNAs in the developing inflorescence of rice** *GENOME RESEARCH*
  Johnson, C., Kasprzewska, A., Tennessen, K., Fernandes, J., Nan, G., Walbot, V., Sundaresan, V., Vance, V., Bowman, L. H.
  2009; 19 (8): 1429-1440

- **Nonradioactive genomic DNA blots for detection of low abundant sequences in transgenic maize.** *Methods in molecular biology (Clifton, N.J.)*
  Nan, G., Walbot, V.
  2009; 526: 113-122

- **Plasmid rescue: recovery of flanking genomic sequences from transgenic transposon insertion sites.** *Methods in molecular biology (Clifton, N.J.)*
  Nan, G., Walbot, V.
  2009; 526: 101-109

- **Distinctive transcriptome responses to adverse environmental conditions in Zea mays L.** *PLANT BIOTECHNOLOGY JOURNAL*
  Fernandes, J., Morrow, D. J., Casati, P., Walbot, V.
  2008; 6 (8): 782-798

- **Maize lines expressing RNAi to chromatin remodeling factors are similarly hypersensitive to UV-B radiation but exhibit distinct transcriptome responses** *EPIGENETICS*
  Casati, P., Walbot, V.
  2008; 3 (4): 216-229

- **Histone acetylation and chromatin remodeling are required for UV-B-dependent transcriptional activation of regulated genes in maize** *PLANT CELL*
  Casati, P., Campi, M., Chu, F., Suzuki, N., Maltby, D., Guan, S., Burlingame, A. L., Walbot, V.
  2008; 20 (4): 827-842

- **Male reproductive development: gene expression profiling of maize anther and pollen ontogeny** *GENOME BIOLOGY*
  Ma, J., Skibbe, D. S., Fernandes, J., Walbot, V.
  2008; 9 (12)

- **Maize genome in motion.** *Genome biology*
  Walbot, V.
  2008; 9 (4): 303-?

- **Coordinated regulation of maize genes during increasing exposure to ultraviolet radiation: identification of ultraviolet-responsive genes, functional processes and associated potential promoter motifs** *PLANT BIOTECHNOLOGY JOURNAL*
  Blanding, C. R., Simmons, S. J., Casati, P., Walbot, V., Stapleton, A. E.
  2007; 5 (6): 677-695

- **Epigenetic silencing and unstable inheritance of MuDR activity monitored at four bz2-mu alleles in maize (Zea mays L.)** *GENES & GENETIC SYSTEMS*
  Takumi, S., Walbot, V.
  2007; 82 (5): 387-401

- **Genetic diversity contribution to errors in short oligonucleotide microarray analysis** *PLANT BIOTECHNOLOGY JOURNAL*
  Kirst, M., Caldo, R., Casati, P., Tanimoto, G., Walbot, V., Wise, R. P., Buckler, E. S.
  2006; 4 (5): 489-498

- **An early excision variant of the MUDR/MU transposon family is not associated with a local duplication of the bz1 :: Mu1 allele** *MAYDICA*
  Rudenko, G. N., Ono, A., Walbot, V.
  2006; 51 (2): 227-231

- **Analysis of leaf proteome after UV-B irradiation in maize lines differing in sensitivity** *MOLECULAR & CELLULAR PROTEOMICS*
  Casati, P., Zhang, X., Burlingame, A. L., Walbot, V.
  2005; 4 (11): 1673-1685

- **OBPC Symposium: Maize 2004 & Beyond - Regulation of the MudR/Mu transposable elements of maize and their practical uses** *Fall Meeting of the Ohio-Plant-Biotechnology-Consortium (OPBC)*
  Walbot, V.
  SPRINGER.2005: 374–77

- **Differential accumulation of maysin and rhamnosylisoorientin in leaves of high-altitude landraces of maize after UV-B exposure** *PLANT CELL AND ENVIRONMENT*
  Casati, P., Walbot, V.
  2005; 28 (6): 788-799

- **PROGRESS AND PERSPECTIVES IN MAIZE GENE DISCOVERY** *MAYDICA*
  Rudenko, G. N., Nan, G., Walbot, V.
  2005; 50 (3-4): 393-404

- **Split-plot microarray design allows sensitive detection of expression differences after ultraviolet radiation in the inbred parental lines of a key maize mapping population** *PLANT CELL AND ENVIRONMENT*
  Blum, J. E., Casati, P., Walbot, V., Stapleton, A. E.
  2004; 27 (11): 1374-1386
- **Crosslinking of ribosomal proteins to RNA in maize ribosomes by UV-B and its effects on translation(1[w])** *PLANT PHYSIOLOGY*
  Casati, P., Walbot, V.
  2004; 136 (2): 3319-3332
- **A multidrug resistance-associated protein involved in anthocyanin transport in Zea mays** *PLANT CELL*
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