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EDUCATION:

University of Illinois at Urbana-Champaign	Cell and Structural Biology	B.Sc.	1994
University of Illinois at Urbana-Champaign	Phys. & Mol. Plant Biology	Ph.D.	2001
Cold Spring Harbor Laboratory	Plant Genetics	Postdoc	2005

APPOINTMENTS:

2007-	Research Assistant Professor, Cold Spring Harbor Laboratory, NY
2005-2007	Scientific Informatics Analyst II, Cold Spring Harbor Laboratory, NY
2003-2005	NSF Postdoctoral Fellow, Interdisciplinary Informatics Cold Spring Harbor Laboratory, NY
2001-2003	Postdoctoral Fellow, Cold Spring Harbor Laboratory, NY
1999-2001	Graduate Research Assistant University of Illinois at Urbana-Champaign
1995-1998	NSF-DOE Integrative Photosynthesis Research Fellow University of Illinois at Urbana-Champaign
1994-1995	Teaching Assistant, Department of Biology University of Illinois at Urbana-Champaign

PUBLICATIONS

- Slotkin RK, Vaughn M, Borges F, Tanurdzić M, Becker JD, Feijó JA, Martienssen RA. 2009. Epigenetic reprogramming and small RNA silencing of transposable elements in pollen. **Cell**. 2009 Feb 6;136(3):461-72. PubMed PMID: 19203581; PubMed Central PMCID: PMC2661848.
- Irvine DV, Goto DB, Vaughn MW, Nakaseko Y, McCombie WR, Yanagida M, Martienssen R. Mapping epigenetic mutations in fission yeast using whole-genome next-generation sequencing. **Genome Res**. 2009 Jun;19(6):1077-83. Epub 2009 May 7. PubMed PMID: 19423874; PubMed Central PMCID: PMC2694473.
- Tanurdzic M, Vaughn MW, Jiang H, Lee TJ, Slotkin RK, Sosinski B, Thompson WF, Doerge RW, Martienssen RA. Epigenomic consequences of immortalized plant cell suspension culture. **PLoS Biol**. 2008 Dec 9;6(12):2880-95. PubMed PMID: 19071958; PubMed Central PMCID: PMC2596858.
- Li F, Huarte M, Zaratiegui M, Vaughn MW, Shi Y, Martienssen R, Cande WZ. Lid2 is required for coordinating H3K4 and H3K9 methylation of heterochromatin and euchromatin. **Cell**. 2008 Oct 17;135(2):272-83. PubMed PMID: 18957202; PubMed Central PMCID: PMC2614271.
- Vaughn, M.W., Tanurdzic, M., Lippman, Z., Jiang, H., Carasquillo, R., Rabinowicz, P.D., Dedhia, N., McCombie, W.R., Agier, N., Bulski, A., Colot, V., Doerge, R.W., and R.A. Martienssen (2007) Epigenetic natural variation in *Arabidopsis thaliana*. **PLOS Biology**

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Huarte, M., Lan, F., Kim, T., Vaughn, M.W., Zaratiegui, M., Martienssen, R.A., Buratowski, S., and Y. Shi (2007) The fission yeast JMJ2 reverses histone H3 lysine trimethylation.

Journal of Biological Chemistry (in press)

Lan F., Zaratiegui M., Villen J., Vaughn M.W., Verdel A., Huarte M., Gygi S.P., Moazed D., Martienssen R.A., Shi Y. (2007) *S. pombe* LSD1 homologs regulate heterochromatin propagation and euchromatic gene transcription. **Molecular Cell** 26:89-101

Irvine, D.V., Zaratiegui, M., Tolia, N. H., Goto, D. B., Chitwood, D. H., Vaughn, M. W., Joshua-Tor, L., and R. A. Martienssen (2006) Argonaute slicing is required for heterochromatic silencing and spreading. **Science** 313(5790):1134-7

Ronemus, M., Vaughn, M. W., and R. A. Martienssen (2006) miRNA-Targeted and siRNA-Mediated mRNA Degradation Is Regulated by Argonaute, Dicer and RdRP In Arabidopsis. **Plant Cell** 18(7):1559-74

Vaughn, M.W., Tanurdzic, M., and R. A. Martienssen (2005) Replication, Repair, and Reactivation. **Developmental Cell** 9(6): 724-725

Vaughn, M.W. and R. A. Martienssen (2005) It's a Small RNA World, After All. **Science** 309(5740): 1525-1526

Vaughn, M.W. and R. M. Martienssen (2005) Finding the Right Template: RNA Pol IV, a Plant-Specific RNA Polymerase. **Molecular Cell** 18: 754-756

Martienssen, R.A., Lippman Z., May, B., Ronemus, M., and M.W. Vaughn (2005) Transposons, Tandem Repeats, and the Silencing of Imprinted Genes. **Cold Spring Harbor Symposia on Quantitative Biology 2004**, Symposium 69, Pages 1-10, Posted online on January 5, 2005. (doi:10.1101/sqb.2004.69.051)

Lippman, Z., Gendrel, A.V., Black, M., Vaughn, M.W., Dedhia, N., McCombie, W.R., Lavine, K., Mittal, V., May, B., Kasschau, K., Carrington, J.C., Doerge, R.W., Colot, V., and Martienssen, R.A. (2004) Role of transposable elements in heterochromatin and epigenetic control. **Nature** 430: 471-476

Chen, Z. J., Wang, J., Tian, L., Lee, H. S., Wang, J. J., Chen, M., Lee, J. J., Josefsson, C., Madlung, A., Watson, B., Pires, J. C., Lippman, Z., Vaughn, M. W., Colot, V., Birchler, J. A., Doerge, R. W., Martienssen, R., Comai, L., & Osborn, T. (2004). The development of an Arabidopsis model system for genome-wide analysis of polyploidy effects. **Biological Journal of the Linnean Society**. 82,: 689-700

SYNERGISTIC ACTIVITIES:

Mentor: Cold Spring Harbor Laboratory Partners for the Future

Coordinator and Instructor: Cold Spring Harbor School District Science Fair

Reviewer: The Plant Cell, Genome Biology, Science, Bioinformatics, Cell, Plant Physiology, Cytogenetic and Genome Research, PLOS Biology, The Plant Journal

Scientific Lead, Genotype-to-Phenotype: iPlant Collaborative 2008-

GRADUATE AND POSTDOCTORAL ADVISORS:

D. Bush, Thesis Advisor, Colorado State University

R. Martienssen, Postdoctoral Mentor, Cold Spring Harbor Laboratory

THESIS ADVISOR AND POSTGRADUATE-SCHOLAR SPONSOR:

V. Thapar, Postgraduate-Scholar Sponsor, Cold Spring Harbor Laboratory