

## CURRICULUM VITAE

**Name:** Michael Wolf

**Personal Data:** Born 29 January 1960, Philadelphia, PA

**Education:** Stanford University, Ph.D., 1986  
Yale University, B.S. (Mathematics, Philosophy), 1981

**Areas of Research:** Teichmüller Theory, Harmonic Maps, Minimal Surfaces,  
Global Differential Geometry

**Fellowships:** Alfred P. Sloan Research Fellow, 1991–95  
NSF Mathematical Sciences Postdoctoral Research Fellow,  
1987–91  
Alfred P. Sloan Doctoral Dissertation Fellow, 1985–86

### Professional Appointments:

Chair, Department of Mathematics, 2005-2009  
Residential College Master, Rice University, 2006-present  
Professor, Rice University, 1999-present  
Member, MSRI, Fall, 2007.  
Invited Professor, Université de Tours, 2005  
Member, Max Planck Institute, June, 1995  
Member, Mathematical Sciences Research Institute, Spring, 1995  
Research Professor, Mathematical Sciences Research Institute,  
1993–94  
Associate Professor, Rice University, 1993–99  
Assistant Professor, Rice University, 1988–93  
C.L.E. Moore Instructor, M.I.T., 1986–88

### Editorial Positions:

Associate Editor, *Bull. Amer. Math. Soc.*, 2002-  
Associate Editor, *J. Geom. Anal.*, 2001-  
Associate Editor, *Walter Rudin Book Series*, McGraw-Hill, 2002-3

### Advisory Positions:

NSF Panels 2003-4, 2005-6, 2006-7.  
Participant, NSF Workshop on EMSW21, 2007.

**Professional Activities:**

Sigma Xi Distinguished Lecturer, 2007-9  
PI, Rice VIGRE Program, 2005-present  
Co-Organizer, Conference on Singularities in Geometry, Rice, (2005)  
Organizing Board, Ahlfors-Bers Colloquium, 2001-8,  
Co-Organizer, American Institute of Mathematics Conference  
on the Global Theory of Minimal Surfaces, Palo Alto, CA, 2005  
Co-Organizer, IIIrd Iberoamerican Congress on Geometry,  
, Salamanca, Spain, 2004  
Co-Organizer, AMS Special Session on Geometric Variational  
Problems, Houston, TX, May, 2004  
Co-Organizer, AMS Special Session on Flat Structures,  
Moduli Spaces and Minimal Surfaces, Portland Oregon, 2002  
Co-Organizer, Clay Mathematics Institute Summer School  
on the Global Theory of Minimal Surfaces, Berkeley, CA, 2001  
Co-Organizer, IIInd Iberoamerican Congress on Geometry,  
Guanajuato, Mexico, 2001  
Co-Organizer, Undergraduate Conference on the Calculus of  
Variations, Houston, TX, 1996  
Co-Organizer, Texas Geometry and Topology Conference,  
Houston, TX, 1990, 1996, 1997, 2000  
Co-Organizer, Regional Geometry Institute Summer School  
and Research Program in Geometry and Nonlinear PDE,  
Park City, UT, 1992  
Invited Participant, National Academy of Sciences'  
Symposium on Frontiers of Science, 1991

**Principal Talks:**

Tulane University, 2009.  
Southeast Geometry Seminar, 2008.  
Pacific Northwest Geometry Seminar, 2008.  
Portland State Univ., 2008  
KIAS conference on Geometric Analysis, Seoul, 2007.  
Brown, 2007.  
Introductory Workshop on Teichmuller Theory, Ann Arbor, 2007,  
Canaryfest, Ann Arbor MI, 2006.  
Notre Dame, 2006  
Chinese Acad. of Sci. School of Math. Sci., 2006  
Intl. Conf. on Discrete Groups, Beijing, 2006  
Intl. Conference on Teichmüller Theory and Vector Bundles,  
Allahabad, India, 2006.  
University of Georgia, 2005  
AIM Conference on Moduli Spaces of Minimal Surfaces,  
Palo Alto, CA, 2005  
Université de Tours (3 talks), 2005  
Princeton, 2005

Wesleyan University, 2005  
 Summer School on Minimal Surfaces, Paris, 2004 (3 lectures)  
 Pacific Northwest Geometry Seminar, Salt Lake City, Utah, 2004  
 Miniconference on Teichmüller Theory, Chicago, 2003  
 University of Oklahoma Karcher Colloquium, Oklahoma, 2003  
 Newton Institute (Klein. Gps. Wkshp.), Cambridge, England, 2003  
 AMS-RSME Special Session, Seville, Spain, 2003  
 Granada, Spain, 2003  
 AMS Special Session, Indiana, 2003  
 Southern California Geometric Analysis Seminar, UCSD, 2003  
 Invited Address, AMS Western Sectional Meeting, Portland, 2002  
 California Institute of Technology, 2002  
 XII Escola de Geometria Diferencial, Goiania, Brazil, 2002  
 AMS Special Session, Ann Arbor, 2002  
 Clay Institute Summer School on Minimal Surfaces (3 talks), 2001  
 University of Chicago, 2001  
 SUNY-Stonybrook, 2001  
 Rutgers, 2001  
 IInd Iberoamerican Congress on Geometry, Guanajuato, Mexico, 2001  
 Texas A&M University, 2000  
 University of Minnesota, 2000  
 Universitat Bonn, 2000  
 Amherst College, 2000  
 Valley Geometry Seminar, UMass, 2000  
 Midrasha Mathematics, Hebrew University, Jerusalem, 1999  
 Bar-Ilan University, Tel Aviv, 1999  
 Indiana University, 1999  
 MSRI-Stanford, 1998  
 Purdue University, 1998  
 University of Michigan, 1998  
 Chinese University of Hong Kong, 1998  
 University of Chicago, 1998  
 University of Illinois (Chicago), 1998  
 Washington University of St. Louis (Roever Colloquium), 1998  
 University of Houston, 1998  
 AMS/SMM Special Session on Complex and Functional Analysis,  
 (Panoramic Talk) Oaxaca, Mexico, 1997  
 Ahlfors Celebration, Stanford University, 1997  
 Texas A&M, 1996  
 University of Massachusetts, 1996  
 University of Chicago, 1996  
 Conference on Complex Analytic Aspects of Teichmüller Spaces,  
 Northhampton, MA, 1995  
 Conference on the Calculus of Variations, Tegernsee Germany, 1995  
 Universität Bonn, 1995

University of Illinois (Chicago), 1995  
 University of Chicago, 1995  
 MSRI, Hyperbolic 3-Manifolds and Conformal Dynamics Conference, 1995  
 Cornell, 1994  
 CUNY, 1994  
 MSRI, Harmonic Maps Conference, 1994  
 University of California, Davis, 1993  
 Nevanlinna Colloquium, University of Michigan, 1993  
 University of Washington, 1992  
 Oberwolfach Conference on Teichmüller Theory, 1992  
 Conference on Low-Dimensional Topology, Knoxville, TN, 1992  
 RGI conference on Differential Geometry and Nonlinear PDE,  
 Park City, UT, 1992  
 Pacific Northwest Geometry Seminar, University of Utah, 1992  
 MIT, 1991  
 University of Maryland, 1991  
 AMS Special Session on Low Dimensional Geometry,  
 Philadelphia, PA, 1991  
 AMS Special Session on Moduli Spaces, Albuquerque, 1990  
 AMS Summer Institute on Differential Geometry, UCLA, 1990  
 Texas Geometry and Topology Conference, Austin, 1989  
 AMS Institute on Riemann Surfaces, Arcata, 1989  
 AMS Special Session on Moduli Spaces, Boulder, 1989  
 Princeton, 1988  
 Harvard, 1988  
 Cal. Inst. of Tech., 1988  
 MSRI Harmonic Maps Conf., 1988  
 University of Maryland, 1988  
 University of Maryland, 1987  
 University of Conn. (Storrs), 1987  
 Ruhr-Universität, Bochum, 1987  
 CUNY Grad. Center, 1987  
 UC San Diego, 1986  
 University of Maryland, 1986

**Students:**

George Stockton, M.A., 1991.  
 Nancy Cunningham, Ph.D., 1998.  
 Lorette Stone, Ph.D. 1999.  
 Robert Huff, Ph. D 2003.  
 Zheng Huang, Ph. D 2003.  
 Matt McClelland, Ph.D. 2009  
 Soomin Kim, Ph.D. 2007.  
 Barbara Chervenka.  
 Casey Douglas, Ph.D. 2009  
 Evelyn Lamb.  
 Renee Laverdiere.

## PUBLICATIONS

1. The Teichmüller Theory of Harmonic Maps, *J. Differential Geom.* **29** (1989), 449–479.
2. Infinite Energy Harmonic Maps and Degeneration of Hyperbolic Surfaces in Moduli Space, *J. Differential Geom.* **33** (1991), 487–539.
3. High Energy Degeneration of Harmonic Maps Between Surfaces and Rays in Teichmüller Space, *Topology* **30** (1991), 517–540.
4. (with S. Wolpert) Real Analytic Structures on the Moduli Space of Curves, *Amer. J. Math.* **114** (1992), 1079–1102.
5. (with B. Zwiebach) The Plumbing of Minimal Area Surfaces, *J. Geom. & Physics*, **15** (1994), 23–56.
6. Harmonic Maps from Surfaces to  $\mathbf{R}$ -Trees, *Math Zeit.*, **218** (1995), 577–593.
7. Harmonic Maps from a Surface and Degeneration in Teichmüller Space, in Proceedings of “Low Dimensional Topology”, Knoxville, 1992, International Press Co. Ltd, Cambridge, MA, 1994, p. 217-239.
8. Review of “Teichmüller Theory in Riemannian Geometry” by A.J. Tromba, *Bull. Amer. Math Soc.* **29** (2) (1993), 285–290.
9. Review of “Teichmüller Theory in Riemannian Geometry” by A.J. Tromba, *Bull. London Math Soc.*, **26** (1994), 315–316.
10. (with H. Masur) Teichmüller space is not Gromov Hyperbolic, *Ann. Acad. Sci. Fenn.*, **20** (1995), 259–267.
11. On the Existence of Jenkins-Strebel Differentials Using Harmonic Maps from Surfaces to Graphs, *Ann. Acad. Sci. Fenn.*, **20** (1995), 269–278.
12. Irregular Homotopies of Harmonic Maps of Surfaces, in preparation.  
(abstract appears in *Vorlesungsreihe, Analysis-Seminar SS1994- WS 1995/6*, Universität Bonn, 1997, 89–91).
13. On Realizing Measured Foliations Via Quadratic Differentials of Harmonic Maps to  $\mathbf{R}$ -trees, *J. D’Analyse Math.*, **68** (1996), 107–120.
14. (edited with R. Hardt) Nonlinear Partial Differential Equations and Differential Geometry, Inst. Adv. Stud./Amer. Math. Society, Providence, RI, 1996.

15. (with R. Hardt) Harmonic Extensions of Quasiconformal Maps to Hyperbolic Space, *Indiana J. Math.*, **46** (1997), 155–163.
16. Measured Foliations and Harmonic Maps of Surfaces, *J. Differential Geom.*, **49**(1998), 437-467.
17. (with M. Weber) Minimal Surfaces of Least Total Curvature and Moduli Spaces of Plane Polygonal Arcs, *Geom. and Funct. Anal.*, **8**(1998),1129-1170.
18. (with R. Hardt) Harmonic Extensions of Quasi-Conformal Maps to Hyperbolic Space, in “Harmonic Morphisms, Harmonic Maps, and Related Topics” (C.K. Anand et al, ed.), Chapman and Hall, Boca Raton, 1999, p. 147-152.
19. (with B. Farb) Harmonic Splittings of Surfaces, *Topology*, **40** (2001), 1395-1414.
20. (with M. Weber) Teichmüller Theory and Handle Addition for Minimal Surfaces, *Annals of Math.*, **156** (2002), 713–795.
21. (with K. Scannell) The Grafting Map of Teichmüller Space, *Jour. Amer. Math. Soc.* **15** (2002), 893-927.
22. (with H. Masur) The Weil-Petersson Isometry Group, *Geom. Ded.*, **93** (2002), 177–190.
23. Flat Structures, Teichmüller theory, and Handle Addition for Minimal Surfaces, Proceedings of the Clay Institute 2001 Summer School on the Global Theory of Minimal Surfaces, (Hoffman et al, editors), Amer. Math. Soc., 2005.
24. Minimal Surfaces, Flat Cone Spheres, and Moduli Spaces of Staircases, in *Six Themes on Variation*, (R. Hardt, ed.), Student Mathematical Library, vol. 26, Amer. Math. Soc, Providence, RI, 2004.
25. (with M. Weber and D. Hoffman) An Embedded Genus-One Helicoid, *Annals of Math*,**169**(2009) no. 2, 347-448.
26. (with M. Weber and D. Hoffman) An Embedded Genus-One Helicoid, *Proc. Nat. Acad. Sci.*, **102**(2005),16566-16568.
27. (with W.H. Meeks III) Minimal Surfaces with the Area Growth of Two Planes; the case of Infinite Symmetry, *Jour. Amer. Math. Soc.*, **20**(2007), 441-465.
28. Minimal Graphs in  $\mathbb{H}^2 \times \mathbb{R}$  and their projections, *Pure & Appl. Math Quarterly J.*, **3**(2007), 881-896.
29. (with D. Dumas) Projective Structures, Grafting and Measured Laminations, *Geometry & Topology*, **12**(2008).

30. The Weil-Petersson Hessian of Length on Teichmuller Space, submitted

31. (with Petra Bonfert-Taylor, Richard D. Canary, Gaven Martin, and Edward C. Taylor)  
Ambient Quasiconformal Homogeneity of Planar Domains, *Ann. Acad. Sci. Fenn.*, to appear.