

WASHINGTON MIO

Education

B.S., Mathematics, Universidade Estadual de Campinas, Brazil, 1978
 M.S., Mathematics, Instituto de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil, 1980
 Ph.D., Mathematics, Courant Institute of Mathematical Sciences, New York University, 1984

Academic Positions

2005–present, Professor, Department of Mathematics, Florida State University
 2018–2024, Chair, Department of Mathematics, Florida State University
 1995–2005, Associate Professor, Department of Mathematics, Florida State University
 1990–1995, Assistant Professor, Department of Mathematics, Florida State University
 1989–1990, Lecturer, Department of Mathematics, University of Pennsylvania
 1988–1989, Visiting Assistant Professor, Department of Mathematics, Cornell University
 1987–1988, Visiting Researcher, Courant Institute of Mathematical Sciences, New York University
 1984–1987, Assistant Professor, Instituto de Matemática Pura e Aplicada, Brazil

Selected Awards and Honors

1. Distinguished Research Professor, Florida State University, since 2023
2. Roger W. Roberts Professor in Mathematics, Florida State University, endowed professorship, since 2022
3. Fellow, American Mathematical Society, Class of 2015
4. Conselho Nacional de Desenvolvimento Científico e Tecnológico, Brazil, postdoctoral fellowship, 1987–1989
5. Conselho Nacional de Desenvolvimento Científico e Tecnológico, Brazil, graduate fellowship, 1980–1984
6. Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), undergraduate research fellowship, Brazil, 1978

Selected Publications (from a total of 100)

1. J. Bryant, S. Ferry, W. Mio and S. Weinberger, *Topology of Homology Manifolds*, Ann. of Math. 143 (1996), 435–467.
2. W. Mio, *Homology Manifolds*, Ann. of Math. Studies, Study 145, Surveys on Surgery Theory: vol. 1, Princeton University Press, 2000, 323–343.
3. J. Bryant, S. Ferry, W. Mio, and S. Weinberger, *Desingularizing Homology Manifolds*, Geometry and Topology 11 (2007), 1289–1314.
4. W. Mio, A. Srivastava, and S. Joshi, *On Shape of Plane Elastic Curves*, International Journal of Computer Vision, 73 (2007), 307–324.
5. X. Liu, Y. Shi, I. Dinov, W. Mio, *A Computational Model of Multidimensional Shape*, International Journal of Computer Vision 89(1) (2010), 69–83.
6. L. Mander, M. Li, W. Mio, C. Fowlkes, S. Punyasena, *Identification of Grass Pollen Through the Quantitative Analysis of Surface Ornamentation and Texture*, Proc. Royal Soc. B. 280 (2013), 20131905.
7. J. Cole, M.F. Manyama, J.R. Larson, D.K. Liberton, T.M. Ferrara, S.L. Riccardi, M. Li, W. Mio, O.D. Klein, S.A. Santorico, B. Hallgrimsson, R.A. Spritz, *Genomewide Association Study of Facial Variation in African Children Identifies Association of SCHIP1 and PDE8A with Facial Size*, PLoS Genetics 12(8) (2016): e1006174. doi:10.1371/journal.pgen.1006174

8. D.H. Díaz Martínez, C. Lee, P. Kim, W. Mio, *Probing the Geometry of Data with Diffusion Fréchet Functions*, Appl. Comput. Harmon. Anal. 47(3) (2019), 935–947.
9. D.H. Díaz Martínez, F. Mémoli, W. Mio, *The Shape of Data and Probability Measures*, Appl. Comput. Harmon. Anal. 48(1) (2020), 149–181.
10. M. Li, M.H. Frank, V. Coneva, W. Mio, D. Chitwood, C. Topp, *The Persistent Homology Mathematical Framework Provides Enhanced Genotype-to-Phenotype Associations for Plant Morphology*, Plant Physiology, 2018. doi: 10.1104/pp.18.00104
11. H. Hang, F. Mémoli, W. Mio, *A Topological Study of Functional Data and Fréchet Functions of Metric Measure Spaces*, J Appl. and Comput. Topology (2019). <https://doi.org/10.1007/s41468-019-00037-8>
12. J. Curry, W. Mio, T. Needham, O.B. Okutan, F. Russold, *Stability and Approximations for Decorated Reeb Spaces*, Proc. Symposium on Computational Geometry (SoCG), Athens, Greece, June 2024.

Selected Presentations

1. International Meeting on Knots and Links, Siegen, Germany, 1993.
2. NSF-CBMS Conference on Controlled Topology and the Characterization of Manifolds, University of Tennessee, Knoxville, 1994.
3. Barrett Memorial Lectures, University of Tennessee, Knoxville, 2010.
4. The 2011 Sampson Lectures, Bates College, Maine.
5. Workshop on Geometry and Statistics in Bioimaging: Manifolds and Stratified Spaces, Sandbjerg Estate, Denmark, 2012.
6. American Mathematical Society Invited Address, Southeastern Sectional Meeting, Oxford, MS, 2013.
7. Café y Matemáticas, Outreach Lecture, Universidad Autónoma de la Ciudad de México (UACM), Mexico City, April 2013.
8. Applied Topology at Będlewo, Poland, July 2013.
9. Workshop on Statistics for Data with Geometric Structure, Oberwolfach, Germany, 2018
10. Randomness in Topology and Its Applications, Institute for Mathematical and Statistical Innovation (IMSI), Chicago, IL, March 2023
11. Encontro Brasileiro de Topologia, 1984, 1990, 1994, 1998, 2000, 2002, 2004, 2012, 2016, 2018, 2024
12. Conference on Interactions of Statistics and Geometry, Institute of Mathematical Sciences, Singapore, October 2024

Doctoral Students

1. Xinyang Liu, FSU, Ph.D. 2010
2. Yu Fan, FSU, Ph.D. 2012
3. Jonathan Bates, FSU, Ph.D. 2013
4. Qiuping Xu, FSU, Ph.D. 2015
5. Diego H Díaz Martínez, FSU, Ph.D. 2016
6. Mao Li, Ph.D. 2016
7. Serdar Cellat, FSU, Ph.D. 2018 (co-supervisor: Giray Ökten)
8. Haibin Hang, FSU, Ph.D. 2020
9. Soheil Anbouhi, FSU, Ph.D. 2022
10. Pan Fang, FSU, current (co-supervisor: Tom Needham)
11. Ece Karacam, FSU, current