John M. Sullivan

Born in Princeton, New Jersey on 25 February 1963; US citizen

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Professional Preparation in Mathematics

1993–1994	Mathematical Sciences Research Institute	Postdoctoral Fellow
1990–1993	Geometry Center, Univ. Minnesota	Postdoctoral Fellow
1986–1990	Princeton University	*Ph. D.*
1985–1986	Cambridge University	*Masters of Advanced Study*
1981–1985	Harvard University	*A. B., summa cum laude*

Professorships

2003–	Technische Universität Berlin	Professor (C4)
2003–2004	Mathematical Sciences Research Institute	Research Professor
2005–	University of Illinois, Urbana	Adjunct Professor
2004–2005	University of Illinois, Urbana	Professor
2000–2004	University of Illinois, Urbana	Associate Professor
1997–2000	University of Illinois, Urbana	Assistant Professor
1991–1997	University of Minnesota	Assistant Professor

Major Administrative Activities

2012–2014	Chair	Berlin Mathematical School
2010–	Co-Chair	Berlin Mathematical School
2006–	Executive Board	Berlin Mathematical School
2005–2009	Faculty Council	Technische Universität Berlin
2003–2014	Council	DFG Research Center MATHEON, Berlin
2001–2003	Executive Committee	Department of Mathematics, UIUC
2000	Acting Director	Center for Process Simulation and Design, UIUC

Honors and Awards

2013–	Inaugural Fellow	American Mathematical Society
1997–1999	Arnold O. Beckman Research Award	University of Illinois
1989–1990	Doctoral Dissertation Fellow	Alfred P. Sloan Foundation

Ph.D. students

UIUC	Wacharin Wichiramala (2002), Elizabeth Denne (2004), Pavel Groisman (2004)
TU Berlin	Barbara Jablonska (2012), Silvia De Toffoli (2013), in progress: Florian Frick, Mimi Tsuruga, Thomas El-Khatib

Research Interests

Geometric knot theory; discrete differential geometry; mathematical visualization; surfaces of constant mean curvature; geometry and combinatorics of triangulations

Conferences and Invited Lectures

I have co-organized a dozen different conferences, including five at Oberwolfach. My mathematical visualizations (videos, prints and sculptures) have been included in dozens of exhibits of mathematical artwork in eight US states and at least nine other countries. I have given over 200 invited lectures at conferences and mathematics departments. This includes over 30 department-wide colloquiuum lectures at universities in six different countries, including ETH Zürich, Imperial College London and the University of Wisconsin. Other highlights include a plenary address at the AMS Sectional Meeting in Madison in 2002, and an MSRI/Evans lecture at UC Berkeley in 2004.

Ten Selected Publications

Geometric Knot Theory

1. J. Cantarella, J. Fu, R. Kusner, and JMS. Ropelength criticality. *Geometry and Topology*, 18:1973–2043, 2014. `arXiv.org/abs/1102.3234`

2. J. Cantarella, J. Fu, R. Kusner, JMS, and N. Wrinkle. Criticality for the Gehring link problem. *Geometry and Topology*, 10:2055–2115, 2006. `arXiv.org/abs/math.DG/0402212`

3. E. Denne, Y. Diao, and JMS. Quadrisecants give new lower bounds for the ropelength of a knot. *Geometry and Topology*, 10:1–26, 2006. `arXiv.org/abs/math.DG/0408026`

4. J. Cantarella, R. B. Kusner, and JMS. On the minimum ropelength of knots and links. *Inventiones Math.*, 150(2):257–286, 2002. `arXiv.org/abs/math.GT/0103224`

Surfaces of Constant Mean Curvature

5. K. Große-Brauckmann, R. Kusner, and JMS. Coplanar constant mean curvature surfaces. *Comm. Anal. Geom.*, 15(5):985–1023, 2008. `arXiv.org/abs/math.DG/0509210`

6. K. Große-Brauckmann, R. Kusner, and JMS. Triunduloids: Embedded constant mean curvature surfaces with three ends and genus zero. *J. reine angew. Math.*, 564:35–61, 2003. `arXiv.org/abs/math.DG/0102183`

Mathematical Visualization

7. JMS. Mathematical pictures: Visualization, art and outreach. In *Raising Public Awareness of Mathematics*, pages 279–293. Springer, 2012.

8. JMS, G. Francis, and S. Levy. The Optiverse. Seven-minute video in *VideoMath Festival at ICM'98*. Springer, 1998. `torus.math.uiuc.edu/optiverse/`

Triangulations

9. I. Izmestiev, R. Kusner, G. Rote, B. Springborn, and JMS. There is no triangulation of the torus with vertex degrees $5, 6, \ldots, 6, 7$ and related results: geometric proofs for combinatorial theorems. *Geom. Dedicata*, 166:15–29, 2013. `arXiv.org/abs/1207.3605`

10. D. Eppstein, JMS, and A. Üngör. Tiling space and slabs with acute tetrahedra. *Comput. Geom.: Theory and Appl.*, 27(3):237–255, 2004. `arXiv.org/abs/cs/0302027`