

Joel C. Langer – Publications

- *Diffeomorphisms of the circle and geodesic fields on Riemann Surfaces of genus one*, Invent. Math. **69** (1982) 229-242 (with D. Singer).
- *On the total squared curvature of closed curves*, J. Diff. Geometry **20** (1984) 1-22 (with D. Singer).
- *Curves in the hyperbolic plane and mean curvature of tori in 3-space*, Bull. London Math. Soc. **16** (1984) 531-534 (with D. Singer).
- *Knotted elastic curves in R^3* , J. London Math. Soc. (2) **30** (1984) 512-520 (with D. Singer).
- *A compactness theorem for surfaces with L_p -bounded second fundamental form*, Math. Ann. **270** (1985) 223-234.
- *Curve straightening and a minimax argument for closed elastic curves*, Topology **24** (1985) 75-88 (with D. Singer).
- *Curve shortening and homothetic solutions in R^2* , J. Diff. Geom. **23** (1986) 175-196 (with U. Abresch).
- *Curve straightening in Riemannian manifolds*, Ann. Global Anal. Geom. **5** (1987) 133-150 (with D. Singer).
- *The Hasimoto transformation and integrable flows on curves*, Appl. Math. Lett. **3** (1990) 61-64 (with R. Perline).
- *Poisson geometry of the filament equation*, J. Nonlinear Sci. **1** (1991) 71-93 (with R. Perline).
- *Local geometric invariants of integrable evolution equations*, J. Math. Phys. **35** (1994) 1732-1737 (with R. Perline).
- *Liouville integrability of geometric variational problems*, Comment. Math. Helvetici **69** (1994) 272-280 (with D. Singer).
- *The planar filament equation*, in: W. Shadwick, P. Krishnaprasad, T. Ratiu, eds., *Fields Institute Communications, Mechanics Day* (AMS, Providence, RI, 1996) 181-187 (with R. Perline).
- *The filament equation, the Heisenberg model, and the non-linear Schrödinger equation*, in: W. Shadwick, P. Krishnaprasad, T. Ratiu, eds., *Fields Institute Communications, Mechanics Day* (AMS, Providence, RI, 1996) 171-180 (with R. Perline).

- *Lagrangian Aspects of the Kirchhoff Elastic Rod*, SIAM Review **38** (1996) 605-618 (with D. Singer).
- *Curve motion inducing modified Korteweg-de Vries systems*, Phys. Lett. A **239** (1998) 36-40 (with R. Perline).
- *Taimanov's surface evolution and Bäcklund transformations for curves*, J. Conformal Geometry and dynamics **3** (1999) 37-49 <http://www.ams.org/ecgd/home-1999.html> (with O. Garay).
- *Recursion in curve geometry*, New York J. Math. **5** (1999) 25-51.
- *Geometric realizations of Fordy-Kulish nonlinear Schrödinger systems*, Pac. J. Math., Vol. 195, No. 1, 2000 (with R. Perline), 157-178.
- *Straightening soliton curves*, Appl. Math. Lett., **14** (2001), 387-391.
- *Schwarz reflection geometry, Part I: continuous iteration of reflection*, Math. Zeitschrift, **244** (2003), 775–804 (with A. Calini).
- *Rational diffeomorphisms of the circle*, Applied Mathematics Letters, **20**, (2007), No. 8, pp. 876-879.
- *Schwarz reflection geometry, Part II: local and global behavior of the exponential map*, Exp. Math., **16** (2007), No. 3, pp. 321–346 (with A. Calini).
- *Foci and foliations of real algebraic curves*, Milan J. Math., **75** (2007) No. 1, pp. 225–271 (with D. Singer).
- *When is a curve an octahedron?*, Amer. Math. Monthly, Vol 117, No. 10 (2010) pp. 889–902 (with D. Singer).
- *The Vitruvian figure of eight*, Bridges Pécs 2010 Proceedings.
- *Reflections on the lemniscate of Bernoulli: The forty eight faces of a mathematical gem*, Milan J. Math., Vol 78 (2010) pp. 643–682 (with D. Singer).
- *The conformal Vega disk*, Bridges Coimbra 2011 Proceedings.
- *The lemniscatic chessboard*, Forum Geometricorum, vol. 11 (2011) pp. 183–199 (with D. Singer).
- *On meromorphic parametrizations of real algebraic curves*, Journal of Geometry, vol. 100, no. 1 (2011) pp. 105–128.

- *Subdividing the trefoil by origami*, Geometry I (2012), Article ID 897320 (with D. Singer).
- *The trefoil*, Milan J. Math., November (2013), DOI: 10.1007/s00032-013-0211-5 (with D. Singer).
- *Plotting the polyhedral geometry of a quadratic differential*, Journal of Geometry 108(3), 837-849, (2017).
- *Flat curves*, Mediterranean J. Math., Vol. 14, No. 6 (2017), DOI: 10.1007/s00009-017-1037-0 (with D. Singer).
- *On the geometric mean of a pair of oriented, meromorphic foliations, Part I*, Complex Analysis and its Synergies, (2018), <https://rdcu.be/bbMYj> (with D. Singer).