

# Martin Bauer

## List of Publications by Year in descending order

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48  
papers

735  
citations

623734

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h-index

552781

26  
g-index

48  
all docs

48  
docs citations

48  
times ranked

252  
citing authors

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | Overview of the Geometries of Shape Spaces and Diffeomorphism Groups. Journal of Mathematical Imaging and Vision, 2014, 50, 60-97.                                    | 1.3 | 106       |
| 2  | Sobolev metrics on shape space of surfaces. Journal of Geometric Mechanics, 2011, 3, 389-438.   | 0.8 | 73        |
| 3  | Constructing reparameterization invariant metrics on spaces of plane curves. Differential Geometry and Its Applications, 2014, 34, 139-165.                           | 0.5 | 52        |
| 4  | Uniqueness of the Fisher-Rao metric on the space of smooth densities. Bulletin of the London Mathematical Society, 2016, 48, 499-506.                                 | 0.8 | 48        |
| 5  | Vanishing geodesic distance for the Riemannian metric with geodesic equation the KdV-equation. Annals of Global Analysis and Geometry, 2012, 41, 461-472.             | 0.6 | 33        |
| 6  | Almost Local Metrics on Shape Space of Hypersurfaces in $n$ -Space. SIAM Journal on Imaging Sciences, 2012, 5, 244-310.   | 2.2 | 32        |
| 7  | A Numerical Framework for Sobolev Metrics on the Space of Curves. SIAM Journal on Imaging Sciences, 2017, 10, 47-73.  | 2.2 | 29        |
| 8  | Sobolev metrics on shape space, II: Weighted Sobolev metrics and almost local metrics. Journal of Geometric Mechanics, 2012, 4, 365-383.                              | 0.8 | 27        |
| 9  | Geodesic distance for right invariant Sobolev metrics of fractional order on the diffeomorphism group. Annals of Global Analysis and Geometry, 2013, 44, 5-21.        | 0.6 | 24        |
| 10 | Diffeomorphic Density Matching by Optimal Information Transport. SIAM Journal on Imaging Sciences, 2015, 8, 1718-1751.  | 2.2 | 23        |
| 11 | Local and global well-posedness of the fractional order EPDiff equation on $\mathbb{R}^d$ . Journal of Differential Equations, 2015, 258, 2010-2053.                  | 2.2 | 20        |
| 12 | Geometric investigations of a vorticity model equation. Journal of Differential Equations, 2016, 260, 478-516.  | 2.2 | 19        |
| 13 | A relaxed approach for curve matching with elastic metrics. ESAIM - Control, Optimisation and Calculus of Variations, 2019, 25, 72.                                   | 1.3 | 19        |
| 14 | Sobolev Metrics on the Manifold of All Riemannian Metrics. Journal of Differential Geometry, 2013, 94, .  | 1.1 | 15        |
| 15 | Homogeneous Sobolev Metric of Order One on Diffeomorphism Groups on Real Line. Journal of Nonlinear Science, 2014, 24, 769-808.                                       | 2.1 | 15        |
| 16 | Geodesic distance for right invariant Sobolev metrics of fractional order on the diffeomorphism group. II. Annals of Global Analysis and Geometry, 2013, 44, 361-368. | 0.6 | 14        |
| 17 | Why Use Sobolev Metrics on the Space of Curves. , 2016, , 233-255.  |     | 14        |
| 18 | Vanishing Distance Phenomena and the Geometric Approach to SQG. Archive for Rational Mechanics and Analysis, 2020, 235, 1445-1466.                                    | 2.4 | 13        |

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 19 | A Numerical Framework for Elastic Surface Matching, Comparison, and Interpolation. International Journal of Computer Vision, 2021, 129, 2425-2444. | 15.6 | 13        |
| 20 | Shape Analysis of Surfaces Using General Elastic Metrics. Journal of Mathematical Imaging and Vision, 2020, 62, 1087-1106.                         | 1.3  | 12        |
| 21 | Landmark-guided elastic shape analysis of human character motions. Inverse Problems and Imaging, 2017, 11, 601-621.                                | 1.1  | 12        |
| 22 | $S^2$ -transforms for Sobolev $H^2$ -metrics on spaces of plane curves. Geometry Imaging and Computing, 2014, 1, 1-56.                             | 0.8  | 12        |
| 23 | Curvature weighted metrics on shape space of hypersurfaces in n-space. Differential Geometry and Its Applications, 2012, 30, 33-41.                | 0.5  | 11        |
| 24 | Metrics on spaces of immersions where horizontality equals normality. Differential Geometry and Its Applications, 2015, 39, 166-183.               | 0.5  | 9         |
| 25 | Fractional Sobolev metrics on spaces of immersions. Calculus of Variations and Partial Differential Equations, 2020, 59, 1.                        | 1.7  | 9         |
| 26 | The Square Root Normal Field Distance and Unbalanced Optimal Transport. Applied Mathematics and Optimization, 2022, 85, 1.                         | 1.6  | 9         |
| 27 | Comparing curves in homogeneous spaces. Differential Geometry and Its Applications, 2018, 60, 9-32.  | 0.5  | 8         |
| 28 | Inexact Elastic Shape Matching in the Square Root Normal Field Framework. Lecture Notes in Computer Science, 2019, , 13-20.                        | 1.3  | 7         |
| 29 | Semi-invariant Riemannian metrics in hydrodynamics. Calculus of Variations and Partial Differential Equations, 2020, 59, 1.                        | 1.7  | 6         |
| 30 | Riemannian geometry of the space of volume preserving immersions. Differential Geometry and Its Applications, 2016, 49, 23-42.                     | 0.5  | 5         |
| 31 | The Square Root Velocity Framework for Curves in a Homogeneous Space. , 2017, , .  |      | 5         |
| 32 | Structural Connectome Atlas Construction in the Space of Riemannian Metrics. Lecture Notes in Computer Science, 2021, , 291-303.                   | 1.3  | 5         |
| 33 | Well-posedness of the EPDiff equation with a pseudo-differential inertia operator. Journal of Differential Equations, 2020, 269, 288-325.          | 2.2  | 4         |
| 34 | A New Variational Model for Shape Graph Registration with Partial Matching Constraints. SIAM Journal on Imaging Sciences, 2022, 15, 261-292.       | 2.2  | 4         |
| 35 | Fractional Sobolev metrics on spaces of immersed curves. Calculus of Variations and Partial Differential Equations, 2018, 57, 1.                   | 1.7  | 3         |
| 36 | An inexact matching approach for the comparison of plane curves with general elastic metrics. , 2019, , .  |      | 3         |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 37 | Can we run to infinity? The diameter of the diffeomorphism group with respect to right-invariant Sobolev metrics. <i>Calculus of Variations and Partial Differential Equations</i> , 2021, 60, 1. | 1.7 | 3         |
| 38 | Smooth Perturbations of the Functional Calculus and Applications to Riemannian Geometry on Spaces of Metrics. <i>Communications in Mathematical Physics</i> , 2022, 389, 899-931.                 | 2.2 | 3         |
| 39 | Optical Flow on Moving Manifolds. <i>SIAM Journal on Imaging Sciences</i> , 2015, 8, 484-512.   | 2.2 | 2         |
| 40 | On geodesic completeness for Riemannian metrics on smooth probability densities. <i>Calculus of Variations and Partial Differential Equations</i> , 2017, 56, 1.                                  | 1.7 | 2         |
| 41 | Simplifying Transformations for a Family of Elastic Metrics on the Space of Surfaces. , 2020, , .   |     | 2         |
| 42 | Supervised deep learning of elastic SRV distances on the shape space of curves. , 2021, , .   |     | 2         |
| 43 | Geometric and topological approaches to shape variation in <i>Ginkgo</i> leaves. <i>Royal Society Open Science</i> , 2021, 8, 210978.   | 2.4 | 2         |
| 44 | A Geometric View on the Generalized Proudman–Johnson and r-Hunter–Saxton Equations. <i>Journal of Nonlinear Science</i> , 2022, 32, 1.  | 2.1 | 2         |
| 45 | Diffeomorphic density registration. , 2020, , 577-603.  |     | 1         |
| 46 | Geodesic completeness of the $H^{3/2}$ metric on $\mathrm{Diff}(S^1)$ . <i>Monatshefte Fur Mathematik</i> , 2020, 193, 233-245.   | 0.9 | 1         |
| 47 | A diffeomorphism-invariant metric on the space of vector-valued one-forms. <i>Pure and Applied Mathematics Quarterly</i> , 2021, 17, 141-183.   | 0.4 | 1         |
| 48 | Intrinsic Riemannian Metrics on Spaces of Curves: Theory and Computation. , 2021, , 1-35.   |     | 1         |