

## Publications in refereed journals and books

1. *A construction of relatively pure submodules*, Communications in Algebra Vol 42, Issue 1 (2014) pp. 228-237.
2. *Differentiable mappings on products with different degrees of differentiability in the two factors* (with H. Alzaareer), Expo. Math. 33 (2015), pp. 184-222.
3. *Orbifold diffeomorphism groups*, in: Kielanowski, P. et al. (Eds.), Geometric Methods in Physics XXXII Workshop Białowieża 2013, (2014) pp. 153-162.
4. *The diffeomorphism group of a non-compact orbifold*, Ph.D. thesis Paderborn (2013), urn:nbn:de:hbz:466:2-12166, Published as: Dissertationes Math. (Rozprawy Mat.) 507 (2015), 179 pages.
5. *The Lie group of bisections of a Lie groupoid* (with C. Wockel), Ann. Global Anal. Geom. Vol 48, Issue 1 (2015), pp. 87-123.
6. *The Lie group structure of the Butcher group* (with G. Bogfjellmo), 33 pages, (2015), Found. Comput. Math., DOI: 10.1007/s10208-015-9285-5.
7. *The Lie group of real analytic diffeomorphisms is not real analytic* (with R. Dahmen), 32 pages, Studia Math. 229(2) (2015), pp. 141-172, DOI: 10.4064/sm8130-12-2015.
8. *Character groups of Hopf algebras as infinite-dimensional Lie groups* (with G. Bogfjellmo and R. Dahmen), Ann. Inst. Fourier (Grenoble), 66 no. 5 (2016), pp. 2101-2155.
9. *(Re)constructing Lie groupoids from their bisections and applications to prequantisation* (with C. Wockel), Differential Geom. Appl. 49 (2016), pp. 227-276.
10. *Functorial aspects of the reconstruction of Lie groupoids from their bisections* (with C. Wockel), J. Aust. Math. Soc. 101 (2016), p. 253-276, DOI: 10.1017/S1446788716000021.
11. *The tame Butcher group* (with G. Bogfjellmo), J. Lie theory 26 (2016), No. 4, pp. 1107-1144.
12. *Shape Analysis on Lie Groups with Applications in Computer Animation* (with E. Celledoni and M. Eslitzbichler), J. Geom. Mech. 8, no. 3 (2016), pp. 273-304, DOI: 10.3934/jgm.2016008.
13. *Strong topologies for spaces of smooth maps with infinite-dimensional target* (with E.O. Hjelle), Expo. Math. (2016), DOI: 10.1016/j.exmath.2016.07.004.
14. *Overview of (pro-)Lie group structures on Hopf algebra character groups* (with G. Bogfjellmo and R. Dahmen), in M. Barbero, K. Ebrahimi-Fard (Eds.): Discrete Mechanics, Geometric Integration and Lie-Butcher Series, Springer Proceedings in Mathematics & Statistics Vol. 267 (2018) pp. 284-314.

15. *Shape Analysis on Lie groups and homogeneous spaces* (with E. Celledoni, S. Eidnes and M. Eslitzbichler) in: Nielsen F., Barbaresco F. (eds) Geometric Science of Information. GSI 2017. Lecture Notes in Computer Science, vol 10589. Springer, Cham
16. *Shape analysis on homogeneous spaces* (with E. Celledoni und S. Eidnes), In: Celledoni E., et. al. (eds) Computation and Combinatorics in Dynamics, Stochastics and Control. Abelsymposium 2016. Abel Symposia, vol 13. (2019)
17. *The geometry of characters of Hopf algebras* (with G. Bogfjellmo), In: Celledoni E., et. al. (eds) Computation and Combinatorics in Dynamics, Stochastics and Control. Abelsymposium 2016. Abel Symposia, vol 13. (2019).
18. *Lie Groups of controlled characters of combinatorial Hopf algebras* (with R. Dahmen), Ann. Inst. Henri Poincaré D 7 (2020), no. 3, 395-456, DOI: 10.4171/AIHPD/90.
19. *Linking Lie groupoid representations and representations of infinite-dimensional Lie groups*, (with H. Amiri), Ann Glob Anal Geom (2019) 55 Issue 4, pp. 749-775.
20. *A differentiable monoid of smooth maps on Lie groupoids* (with H. Amiri), Journal of Lie theory, Vol. 29, No. 4, pp. 1167-1192 (2019)
21. *Convergence of Lie group integrators*, (with C. Curry), Numerische Mathematik (2019), DOI: 10.1007/s00211-019-01083-1.
22. *The Lie group of vertical bisections of a regular Lie groupoid*, Forum Mathematicum (2019), DOI: 10.1515/forum-2019-0128.
23. *Algebra is geometry is algebra*, chapter (currently in press) for Ebrahimi-Fard (Ed.): Encyclopedia Book in Algebra and Geometry, J. Wiley-Elsevier, 2020
24. *Extending Whitney's extension theorem: nonlinear function spaces*, (with D.M. Roberts), 45 pages, to appear in Ann. Inst. Fourier (Grenoble), cf. arXiv:1801.04126.
25. *Continuity of Chen-Fliess Series for Applications in System Identification and Machine Learning* (with R. Dahmen and W.S. Gray), to appear in Proc. 24th International Symposium on Mathematical Theory of Networks and Systems, Cambridge, UK, 2021.

## Preprints

1. *Complexifications of infinite-dimensional manifolds and new constructions of infinite-dimensional Lie groups* (with R. Dahmen and H. Glöckner), 32 pages, (2014), arXiv:1410.6468.
2. *Manifolds of absolutely continuous curves and the square root velocity framework*, 29 pages, arXiv:1612.02604.

3. *Lie groupoids of mappings taking values in a Lie groupoid* (with H. Amiri and H. Glöckner), 44 pages, submitted, arXiv:1811.02888.
4. *Incompressible Euler equations with stochastic forcing: a geometric approach* (with M. Maurelli and K. Modin), 55 pages, submitted, arXiv:1909.09982.
5. *Geometric rough paths on infinite dimensional spaces* (with E. Grong and T. Nilssen), 28 pages, submitted, arXiv:2006.06362.

## Qualification theses

1. *Flache Decken via Garbentheorie*, diploma thesis (in german), University of Paderborn (2010) (for published results cf. publication 1 above)
2. *The diffeomorphism group of a non-compact orbifold*, Ph.D. thesis Paderborn (2013), urn:nbn:de:hbz:466:2-12166
3. *Applications of infinite-dimensional geometry and Lie theory*, habilitation thesis TU Berlin (2019)