

List of Publications

Dr. Alexander Schenkel

Preprints

- [P-2] M. Benini, A. Schenkel and L. Woike,
“Involutive categories, colored $*$ -operads and quantum field theory,”
arXiv:1802.09555 [math.CT].
- [P-1] M. Benini, A. Schenkel and L. Woike,
“Operads for algebraic quantum field theory,”
arXiv:1709.08657 [math-ph].
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Articles in peer reviewed journals

- [J-33] M. Benini, C. Dappiaggi and A. Schenkel,
“Algebraic quantum field theory on spacetimes with timelike boundary,”
to appear in Annales Henri Poincaré [arXiv:1712.06686 [math-ph]].
- [J-32] M. Benini, A. Schenkel and U. Schreiber,
“The stack of Yang-Mills fields on Lorentzian manifolds,”
Commun. Math. Phys. **359**, 765 (2018) [arXiv:1704.01378 [math-ph]].
- [J-31] C. Dappiaggi, S. Murro and A. Schenkel,
“Non-existence of natural states for Abelian Chern-Simons theory,”
J. Geom. Phys. **116**, 119–123 (2017) [arXiv:1612.04080 [math-ph]].
- [J-30] M. Benini and A. Schenkel,
“Quantum field theories on categories fibered in groupoids,”
Commun. Math. Phys. **356**, 19 (2017) [arXiv:1610.06071 [math-ph]].
- [J-29] A. Schenkel and J. Zahn,
“Global anomalies on Lorentzian space-times,”
Annales Henri Poincaré **18**, 2693–2714 (2017) [arXiv:1609.06562 [hep-th]].
- [J-28] G. E. Barnes, A. Schenkel and R. J. Szabo,
“Mapping spaces and automorphism groups of toric noncommutative spaces,”
Lett. Math. Phys. **107**, 1591–1628 (2017) [arXiv:1606.04775 [math.QA]].
- [J-27] P. Aschieri, P. Bieliavsky, C. Pagani and A. Schenkel,
“Noncommutative principal bundles through twist deformation,”
Commun. Math. Phys. **352**, 287 (2017) [arXiv:1604.03542 [math.QA]].
- [J-26] M. Benini and A. Schenkel,
“Poisson algebras for non-linear field theories in the Cahiers topos,”
Annales Henri Poincaré **18**, 1435–1464 (2017) [arXiv:1602.00708 [math-ph]].
- [J-25] C. Dappiaggi, H. Gimperlein, S. Murro and A. Schenkel,
“Wavefront sets and polarizations on supermanifolds,”
J. Math. Phys. **58**, 023504 (2017) [arXiv:1512.07823 [math-ph]].
- [J-24] C. Becker, M. Benini, A. Schenkel and R. J. Szabo,
“Cheeger-Simons differential characters with compact support and Pontryagin duality,”
to appear in Communications in Analysis and Geometry [arXiv:1511.00324 [math.DG]].

- [J-23] C. Becker, M. Benini, A. Schenkel and R. J. Szabo,
 “Abelian duality on globally hyperbolic spacetimes,”
 Commun. Math. Phys. **349**, 361 (2017) [arXiv:1511.00316 [hep-th]].
- [J-22] G. E. Barnes, A. Schenkel and R. J. Szabo,
 “Nonassociative geometry in quasi-Hopf representation categories II:
 Connections and curvature,”
 J. Geom. Phys. **106**, 234–255 (2016) [arXiv:1507.02792 [math.QA]].
- [J-21] M. Benini, A. Schenkel and R. J. Szabo,
 “Homotopy colimits and global observables in Abelian gauge theory,”
 Lett. Math. Phys. **105**, 1193–1222 (2015) [arXiv:1503.08839 [math-ph]].
- [J-20] T. -P. Hack, F. Hanisch and A. Schenkel,
 “Supergeometry in locally covariant quantum field theory,”
 Commun. Math. Phys. **342**, 615 (2016) [arXiv:1501.01520 [math-ph]].
- [J-19] G. E. Barnes, A. Schenkel and R. J. Szabo,
 “Nonassociative geometry in quasi-Hopf representation categories I:
 Bimodules and their internal homomorphisms,”
 J. Geom. Phys. **89**, 111–152 (2015) [arXiv:1409.6331 [math.QA]].
- [J-18] C. Becker, A. Schenkel and R. J. Szabo,
 “Differential cohomology and locally covariant quantum field theory,”
 Rev. Math. Phys. **29**, 1750003 (2017) [arXiv:1406.1514 [hep-th]].
- [J-17] C. J. Fewster and A. Schenkel,
 “Locally covariant quantum field theory with external sources,”
 Annales Henri Poincaré **16**, 2303–2365 (2015) [arXiv:1402.2436 [math-ph]].
- [J-16] A. Schenkel and C. F. Uhlemann,
 “Dirac operators on noncommutative curved spacetimes,”
 SIGMA **9**, 080 (2013) [arXiv:1308.1929 [hep-th]].
- [J-15] M. Benini, C. Dappiaggi, T. -P. Hack and A. Schenkel,
 “A C^* -algebra for quantized principal $U(1)$ -connections on globally hyperbolic Lorentzian
 manifolds,”
 Commun. Math. Phys. **332**, 477 (2014) [arXiv:1307.3052 [math-ph]].
- [J-14] M. Benini, C. Dappiaggi and A. Schenkel,
 “Quantized Abelian principal connections on Lorentzian manifolds,”
 Commun. Math. Phys. **330**, 123 (2014) [arXiv:1303.2515 [math-ph]].
- [J-13] M. Benini, C. Dappiaggi and A. Schenkel,
 “Quantum field theory on affine bundles,”
 Annales Henri Poincaré **15**, 171–211 (2014) [arXiv:1210.3457 [math-ph]].
- [J-12] P. Aschieri and A. Schenkel,
 “Noncommutative connections on bimodules and Drinfeld twist deformation,”
 Adv. Theor. Math. Phys. **18**, 513–612 (2014) [arXiv:1210.0241 [math.QA]].
- [J-11] T. -P. Hack and A. Schenkel,
 “Linear bosonic and fermionic quantum gauge theories on curved spacetimes,”
 Gen. Rel. Grav. **45**, 877 (2013) (*Editor’s choice*) [arXiv:1205.3484 [math-ph]].
- [J-10] A. Schenkel,
 “Module parallel transports in fuzzy gauge theory,”
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- [J-9] A. Schenkel and C. F. Uhlemann,
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- [J-8] A. Schenkel,
 “QFT on homothetic Killing twist deformed curved spacetimes,”
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- [J-7] A. Schenkel and C. F. Uhlemann,
 “Field Theory on Curved Noncommutative Spacetimes,”
 SIGMA **6**, 061 (2010) [arXiv:1003.3190 [hep-th]].
- [J-6] A. Schenkel and C. F. Uhlemann,
 “High energy improved scalar quantum field theory from noncommutative geometry without UV/IR-mixing,”
 Phys. Lett. B **694**, 258 (2010) [arXiv:1002.4191 [hep-th]].
- [J-5] T. Ohl, A. Schenkel and C. F. Uhlemann,
 “Spacetime Noncommutativity in Models with Warped Extradimensions,”
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- [J-4] T. Ohl and A. Schenkel,
 “Algebraic approach to quantum field theory on a class of noncommutative curved spacetimes,”
 Gen. Rel. Grav. **42**, 2785 (2010) [arXiv:0912.2252 [hep-th]].
- [J-3] T. Koslowski and A. Schenkel,
 “Preferred foliation effects in Quantum General Relativity,”
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- [J-2] T. Ohl and A. Schenkel,
 “Cosmological and Black Hole Spacetimes in Twisted Noncommutative Gravity,”
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- [J-1] T. Ohl and A. Schenkel,
 “Symmetry Reduction in Twisted Noncommutative Gravity with Applications to Cosmology and Black Holes,”
 JHEP **0901**, 084 (2009) [arXiv:0810.4885 [hep-th]].

Conference and workshop proceedings

- [C-7] A. Schenkel,
 “Homotopical locally covariant quantum field theory I,”
 in Oberwolfach Reports, Volume 13, Issue 4, pp. 3261–3287 (2016).
New interactions between homotopical algebra and quantum field theory, December 2016, Oberwolfach.
- [C-6] G. E. Barnes, A. Schenkel and R. J. Szabo,
 “Working with Nonassociative Geometry and Field Theory,”
 PoS(CORFU2015)081 [arXiv:1601.07353 [hep-th]].
Noncommutative Field Theory and Gravity, September 2015, Corfu.
- [C-5] A. Schenkel,
 “Quantized Abelian principal connections on Lorentzian manifolds,”
 in Oberwolfach Reports, Volume 10, Issue 3, pp. 2155–2177 (2013).
New Crossroads between Mathematics and Field Theory, July 2013, Oberwolfach.

- [C-4] A. Schenkel,
“Twist deformations of module homomorphisms and connections,”
PoS(CORFU2011)056 [arXiv:1210.1142 [math.QA]].
Noncommutative Field Theory and Gravity, September 2011, Corfu.
- [C-3] A. Schenkel,
“Quantum Field Theory on Curved Noncommutative Spacetimes,”
PoS(CNCFG2010)029 [arXiv:1101.3492 [hep-th]].
Noncommutative Field Theory and Gravity, September 2010, Corfu.
- [C-2] A. Schenkel,
“Quantum Field Theory on Noncommutative Curved Spacetimes,”
in Oberwolfach Reports, Volume 7, Issue 3, pp. 2503–2560 (2010).
Deformation Methods in Mathematics and Physics, September 2010, Oberwolfach.
- [C-1] A. Schenkel,
“Symmetry Reduction and Exact Solutions in Twisted Noncommutative Gravity,”
Acta Phys. Polon. B Proc. Suppl. 2: 657 (2009) [arXiv:0908.0434 [hep-th]].
Non-perturbative Gravity and Quantum Chromodynamics, June 2009, Zakopane.
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PhD thesis

- [T-1] A. Schenkel,
“Noncommutative Gravity and Quantum Field Theory on Noncommutative Curved Spacetimes,”
PhD thesis, Würzburg University (2011) [arXiv:1210.1115 [math-ph]].