

## PUBLICATIONS

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- Published*
- Parity sheaves and tilting modules,  
(with Daniel Juteau and Carl Mautner), *Ann. Sci. Éc. Norm. Supér.* (4) 49 (2016), no. 2, 257–275.
  - A reducible characteristic variety in type A,  
in *Representations of reductive groups, in honor of the 60th birthday of David Vogan*, Birkhäuser, 2015.
  - Appendix to : Modular perverse sheaves on flag varieties I : tilting and parity sheaves,  
(with Pramod Achar and Simon Riche), *Ann. Sci. Éc. Norm. Supér.* (4) 49 (2016), no. 2, 325–370.
  - Parity sheaves, moment graphs, and the  $p$ -smooth locus of Schubert varieties,  
(with Peter Fiebig), *Ann. Inst. Fourier (Grenoble)*, 64 (2014), no. 2, 489–536.
  - Standard objects in 2-braid groups,  
(with Nicolas Libedinsky), *Proc. Lond. Math. Soc.* (3) 109 (2014), no. 5, 1264–1280.
  - Kumar’s criterion modulo  $p$ ,  
(with Daniel Juteau), *Duke Math. J.* 163 (2014), no. 14, 2617–2638.
  - Parity sheaves,  
(with Daniel Juteau and Carl Mautner), *J. Amer. Math. Soc.* 27 (2014), no. 4, 1169–1212.
  - The Hodge theory of Soergel bimodules,  
(with Ben Elias), *Ann. of Math.* (2) 180 (2014), no. 3, 1089–1136.
  - Modular Koszul duality,  
(with Simon Riche and Wolfgang Soergel), *Compos. Math.* 150 (2014), no. 2, 273–332.
  - Characteristic cycles and decomposition numbers,  
(with Kari Vilonen), *Math. Res. Lett.*, 20 (2013), no. 2, 359–366.
  - On an analogue of the James conjecture,  
*Represent. Theory* 18 (2014), 15–27.
  - Modular intersection cohomology complexes on flag varieties,  
(with an appendix by Tom Braden), *Math. Z.* 272 (2012), no. 3–4, 697–727.
  - The geometry of Markov traces,  
(with Ben Webster), *Duke Math. J.* 160, (2011) 2, 401–419.
  - Singular Soergel bimodules,  
*Int. Math. Res. Not. IMRN* 2011, no. 20, 4555–4632.
  - Perverse sheaves and modular representation theory,  
(with Daniel Juteau and Carl Mautner), *Sémin. Congr.* 24–II (2012), 313–350.
  - A geometric model for Hochschild homology of Soergel bimodules,  
(with Ben Webster), *Geom. Topol.*, 12 (2008), 1243–1263.
- Accepted*
- Kazhdan-Lusztig conjectures and shadows of Hodge theory,  
(with Ben Elias), to appear in the proceedings of the Hirzebruch Arbeitstagung.  
<http://arxiv.org/abs/1403.1650>
  - Diagrammatics for Coxeter groups and their braid groups,  
(with Ben Elias), to appear in *Quantum topology*.  
<http://arxiv.org/abs/1405.4928>
  - Soergel calculus,  
(with Ben Elias), to appear in *Representation theory*.  
<http://arxiv.org/abs/1309.0865>
  - Soergel calculus and Schubert calculus,  
(with Xuhua He), to appear in *Bull. Inst. Math. Acad. Sin. (N.S.)*, Lusztig’s 70th birthday volume.  
<http://arxiv.org/abs/1502.04914>

- The  $p$ -canonical basis for Hecke algebras,  
(with Thorge Jensen), to appear in *Perspectives in categorification*.  
<http://arxiv.org/abs/1510.01556>
- On torsion in the intersection cohomology of Schubert varieties,  
to appear in *Journal of Algebra*, Sandy Green memorial volume.
- The Hodge theory of the Decomposition Theorem (after de Cataldo and Migliorini),  
Séminaire Bourbaki, Exp 1115, to appear in *Astérisque*.  
<https://arxiv.org/abs/1603.09235>
- Local Hodge theory of Soergel bimodules,  
to appear in *Acta Math*.  
<http://arxiv.org/abs/1410.2028>
- Schubert calculus and torsion explosion,  
(with an appendix by Alex Kontorovich, Peter McNamara and Geordie Williamson),  
to appear in *J. Amer. Math. Soc.*  
<http://arxiv.org/abs/1309.5055>
- On cubes of Frobenius extensions,  
(with Ben Elias and Noah Snyder),  
to appear in *Representation theory - current trends and perspectives*, EMS Ser. Congr. Rep., Eur. Math. Soc., Zürich, 2016,  
<http://arxiv.org/abs/1308.5994>.
- Submitted* — A geometric construction of colored HOMFLYPT homology,  
(with Ben Webster),  
<http://arxiv.org/abs/0905.0486>
- Tilting modules and the  $p$ -canonical basis,  
(with Simon Riche).  
<https://arxiv.org/abs/1512.08296>
- Preprints* — On the character of certain tilting modules,  
(with George Lusztig).  
<http://arxiv.org/abs/1502.04904>
- Relative hard Lefschetz for Soergel bimodules,  
(with Ben Elias).  
<https://arxiv.org/abs/1607.03271>
- The Hodge theory of the Hecke category.

## TRANSLATIONS

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- *Representations of the Group  $SL_2(\mathbb{F}_q)$* , by Cédric Bonnafé, Springer Verlag, 2010.

## CONFERENCE PROCEEDINGS

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- *Tilting modules and the anti-spherical quotient*,  
Oberwolfach report for meeting “Representations of finite groups”, May 2015.
- *The Hecke algebra and Soergel bimodules*,  
Oberwolfach report for meeting “Algebraic Groups”, April 2013.
- *Some applications of parity sheaves*,  
Oberwolfach report for meeting “Geometric representation theory”, March 2012.
- *Checking Lusztig’s conjecture around the Steinberg weight*,  
Oberwolfach report for meeting “Finite groups”, April 2012.

## THESIS AND ESSAYS

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- *Singular Soergel bimodules*,  
Doctoral thesis, Albert-Ludwigs-Universität Freiburg, 2008.
- *Why the Kazhdan-Lusztig basis of the Hecke Algebra is a Cellular Basis*,  
Essay, University of Sydney, 2003.