

Curriculum Vitae for Peter Jørgensen

Born 1970. British and Danish citizenships
Ph.D. from the University of Copenhagen 1997
Professor of Mathematics at Newcastle University since 2006

ADDRESS

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EDUCATION

Ph.D. in Mathematics, University of Copenhagen	1997
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EMPLOYMENT

Professor of Mathematics at Newcastle University	2006–
University Research Fellow at the University of Leeds	2003–2006
Research Librarian at the Danish Royal Library	2002–2003
Postdoc at the Universities of Bielefeld and Copenhagen	2000–2001
Database Administrator at the Danish Royal Library	1999–2000
Postdoc at the Universities of Antwerp and Copenhagen	1997–1999

EDITING

Main Editor (with Michael C. White) of the Bulletin of the London Mathematical Society	2014–2019
Subject Editor for the Bulletin, Journal, and Proceedings of the London Mathematical Society	2007–2013
Editor of the book “Triangulated categories”, London Math. Soc. Lecture Note Ser., vol. 375, Cambridge University Press, Cambridge, 2010 (with Thorsten Holm and Raphaël Rouquier)	

POSTGRADUATE STUDENTS

Joe Reid	2017–
Francesca Fedele	2016–
David Pescod (Thesis: “Homological algebra and friezes”)	2014–2018
Thomas Fisher (Thesis: “On the homological algebra of clusters, quivers, and triangulations”)	2012–2016
Daniel Maycock (Thesis: “Properties of triangular matrix and Gorenstein DGAs”)	2007–2011
Puiman Ng (Thesis: “Torsion theories and Auslander–Reiten sequences”)	2007–2011
David Pauksztello (Thesis: “Homological properties of DGAs”)	2004–2008

POSTDOCTORAL ASSISTANTS

Ilke Canakci	2017–
Karin Marie Jacobsen	2017
Carmelo Di Natale	2015–2016
James Waldron	2015–2016

SELECTED ADMINISTRATION

Member of the Senate of Newcastle University	2016–2019
Member of the Journals Tender Oversight Group of the London Mathematical Society	2013–2015
Member of the Publications Committee of the London Mathematical Society	2011–2017
Member of the Research Committee of the School of Mathematics at Newcastle University	2011–2013
Member of the Academic Steering Committee of the MAGIC Consortium	2007–2015
Member of the Postgraduate Committee of the School of Mathematics at Newcastle University	2007–2015
Member of Lectureship Appointment Committees (Newcastle)	2008, 2010, 2015

GRANTS

£241,188 as PI on EPSRC Grant ref. EP/P016014/1 for the project “Higher Dimensional Homological Algebra”	2017–2020
£705 as PI on LMS Scheme 4 Grant ref. 41664 for visit by Henrik Holm	2017
£1,200 as PI on LMS Scheme 4 Grant ref. 41658 for visit by Yann Palu	2017
£1,418 as PI on LMS Scheme 2 Grant ref. 21419 for visit by Milen Yakimov	2015
£15,912 as PI on EPSRC Grant ref. EP/K003720/1 for Workshop on Triangulations and Mutations in Newcastle (with CI Stefan Kolb)	2013
£7,500 as co-PI on LMS grant for Workshop on Triangulations and Mutations in Newcastle (with co-PIs Raf Bocklandt and Stefan Kolb)	2013
£700 as PI on LMS Scheme 2 Grant ref. 21107 for visit by Kiriko Kato	2011
£3,500 as CI on LMS Grant for Conference on Triangulated Categories in Leeds (with PI Thorsten Holm)	2006
£5,000 as CI on Leverhulme Trust Grant for Conference on Triangulated Categories in Leeds	2006
£500 as PI on Royal Society Grant for academic visit to Århus	2005

CONFERENCE ORGANISATION

With Thorsten Holm and Sophie Morier-Genoud: Mini-workshop on Friezes (held at Oberwolfach)	2015
With Raf Bocklandt and Stefan Kolb: Workshop on Triangulations and Mutations (held at Newcastle University)	2013
With Thorsten Holm and Raphaël Rouquier: Conference on Triangulated Categories (held at the University of Leeds; Satellite of the International Congress of Mathematicians 2006)	2006

INVITED TALKS

Since 2002 I have given more than 100 invited talks, most recently the following.

Talk at the Auslander International Conference, Woods Hole	2019
Student Colloquia at Louisiana State University	2019
Algebra Seminar at Louisiana State University	2019
Reading Seminar on Higher Auslander–Reiten Theory at Université Paris 7	2019
Séminaire d’Algèbre at the Institut Henri Poincaré, Paris	2019
Talk at the Workshop on Finite Dimensional Algebras, Homotopy Theory, and Geometry at the University of Glasgow	2018
Three talks at the Third Isfahan Seminar on Representations of Algebras	2018
Colloquium at the University of Isfahan	2018
Algebra Seminar at the University of Lancaster	2018
Glasgow Edinburgh Algebra Research Student (GEARS) seminar	2018
Talk at the Joint International Meeting of the CMS and the AMS in Shanghai	2018
Talk at the ARTIN Meeting at the University of Aberdeen	2018
Algebra Seminar at the University of Bristol	2018

UNDERGRADUATE TEACHING

I have taught professionally at the undergraduate level since 1992 when I gave my first Problems Class. I have delivered more than 25 substantial lecture courses, most recently the following.

Undergraduate Course “Number Systems” (36 lectures and ~ 200 students), Newcastle	2018
Undergraduate Cryptography Course (24 lectures and ~ 125 students), Newcastle	2018
Undergraduate Course “Number Systems” (36 lectures and ~ 200 students), Newcastle	2017
Undergraduate Cryptography Course (24 lectures and ~ 100 students), Newcastle	2017
Undergraduate Course “Number Systems” (36 lectures and ~ 200 students), Newcastle	2016
Undergraduate Cryptography Course (24 lectures and ~ 85 students), Newcastle	2016

I supervised MMath projects in 2001/2, 2003/4, 2005/6, 2007/8 (twice), 2008/9, 2013/14, 2014/15, 2015/16, and 2016/17.

PUBLICATIONS

The following list is chronologically ordered. The publications are available electronically from my webpage, <http://www.staff.ncl.ac.uk/peter.jorgensen>

- [1] *Serre-duality for Tails(A)*, Proc. Amer. Math. Soc. **125** (1997), 709–716
- [2] *Non-commutative graded homological identities*, J. London Math. Soc. (2) **57** (1998), 336–350
- [3] *Local cohomology for non-commutative graded algebras*, Comm. Algebra **25** (1997), 575–591
- [4] *Non-commutative Castelnuovo-Mumford regularity*, Math. Proc. Cambridge Phil. Soc. **125** (1999), 203–221
- [5] *Brown Representability for stable categories*, Math. Scand. **85** (1999), 195–218
- [6] *Properties of AS-Cohen-Macaulay algebras*, J. Pure Appl. Algebra **138** (1999), 239–249
- [7] *Gorenstein homomorphisms of non-commutative rings*, J. Algebra **211** (1999), 240–267
- [8] *Intersection theory on non-commutative surfaces*, Trans. Amer. Math. Soc. **352** (2000), 5817–5854
- [9] With J. J. Zhang, *Gourmet’s Guide to Gorensteinness*, Adv. Math. **151** (2000), 313–345
- [10] *Spectra of modules*, J. Algebra **244** (2001), 744–784
- [11] *Triangulated functors, homological functors, tilts, and lifts*, Manuscripta Math. **110** (2003), 381–406
- [12] *Non-commutative curves and their zeta functions*, J. Algebra Appl. **1** (2002), 175–199
- [13] With A. Frankild, *Foxby equivalence, complete modules, and torsion modules*, J. Pure Appl. Algebra **174** (2002), 135–147
- [14] With A. Frankild, *Affine equivalence and Gorensteinness*, Math. Scand. **95** (2004), 5–22
- [15] With A. Frankild, *Gorenstein Differential Graded Algebras*, Israel J. Math. **135** (2003), 327–354
- [16] With A. Frankild and S. Iyengar, *Dualizing Differential Graded modules and Gorenstein Differential Graded Algebras*, J. London Math. Soc. (2) **68** (2003), 288–306
- [17] With A. Frankild, *Homological identities for Differential Graded Algebras*, J. Algebra **265** (2003), 114–135
- [18] *Linear free resolutions over non-commutative algebras*, Compositio Math. **140** (2004), 1053–1058
- [19] *Recognizing dualizing complexes*, Fund. Math. **176** (2003), 251–259
- [20] *Auslander-Reiten theory over topological spaces*, Comment. Math. Helv. **79** (2004), 160–182
- [21] *The Auslander-Reiten quiver of a Poincaré duality space*, Algebr. Represent. Theory **9** (2006), 323–336
- [22] *A non-commutative BGG correspondence*, Pacific J. Math. **218** (2005), 357–377
- [23] *Ext vanishing and infinite Auslander-Buchsbaum*, Proc. Amer. Math. Soc. **133** (2005), 1335–1341
- [24] *Auslander-Reiten sequences on schemes*, Ark. Mat. **44** (2006), 97–103.
- [25] *Finite flat and projective dimension*, Comm. Algebra **33** (2005), 2275–2279
- [26] *The homotopy category of complexes of projective modules*, Adv. Math. **193** (2005), 223–232
- [27] *Existence of Gorenstein projective resolutions and Tate cohomology*, J. Eur. Math. Soc. (JEMS) **9** (2007), 59–76
- [28] With H. Holm, *Cohen-Macaulay homological dimensions*, Rend. Sem. Mat. Univ. Padova **117** (2007), 87–112
- [29] With H. Holm, *Semidualizing modules and related Gorenstein homological dimensions*, J. Pure Appl. Algebra **205** (2006), 423–445
- [30] *Symmetry theorems for Ext vanishing*, J. Algebra **301** (2006), 224–239
- [31] *Finite Cohen-Macaulay type and smooth non-commutative schemes*, Canad. J. Math. **60** (2008), 379–390
- [32] *Recollement for Differential Graded Algebras*, J. Algebra **299** (2006), 589–601
- [33] *A new recollement for schemes*, Houston J. Math. **35** (2009), 1071–1077
- [34] *Amplitude inequalities for Differential Graded modules*, Forum Math. **22** (2010), 941–948

- [35] With H. Holm, *Compactly generated homotopy categories*, Homology, Homotopy Appl. **9** (2007), 257–274
- [36] With H. Holm, *Covers, precovers, and purity*, Illinois J. Math. **52** (2008), 691–703
- [37] *Auslander-Reiten triangles in subcategories*, J. K-theory **3** (2009), 583–601
- [38] *Quotients of cluster categories*, Proc. Roy. Soc. Edinburgh Sect. A **140** (2010), 65–81
- [39] *Reflecting recollements*, Osaka J. Math. **47** (2010), 209–213
- [40] With A. J. Frankild, *Homological properties of cochain Differential Graded algebras*, J. Algebra **320** (2008), 3311–3326
- [41] *Calabi-Yau categories and Poincaré duality spaces*, pp. 399–431 in “Trends in Representation Theory of Algebras and Related Topics” (edited by Skowroński), European Mathematical Society Publishing House, Zürich, 2008
- [42] With T. Holm, *On the relation between cluster and classical tilting*, J. Pure Appl. Algebra **214** (2010), 1523–1533
- [43] With M. Grime, *Compactly generated relative stable categories*, Algebr. Represent. Theory **14** (2011), 247–251
- [44] With H. Holm, *Rings without a Gorenstein analogue of the Govorov-Lazard Theorem*, Q. J. Math. **62** (2011), 977–988
- [45] With T. Holm, *On a cluster category of infinite Dynkin type, and the relation to triangulations of the infinity-gon*, Math. Z. **270** (2012), 277–295
- [46] With H. Holm, *Cotorsion pairs induced by duality pairs*, Journal of Commutative Algebra **1** (2009), 621–633
- [47] With K. Kato, *Symmetric Auslander and Bass categories*, Math. Proc. Cambridge Phil. Soc. **150** (2011), 227–240
- [48] With T. Holm, *Triangulated categories: Definitions, properties and examples*, pp. 1–51 in “Triangulated categories” (edited by Holm, Jørgensen, and Rouquier), London Math. Soc. Lecture Note Ser., vol. 375, Cambridge University Press, Cambridge, 2010
- [49] With Y. Palu, *A Caldero-Chapoton map for infinite clusters*, Trans. Amer. Math. Soc. **365** (2013), 1125–1147
- [50] With T. Holm and M. Rubey, *Ptolemy diagrams and torsion pairs in the cluster category of Dynkin type A_n* , J. Algebraic Combin. **34** (2011), 507–523
- [51] *Duality for cochain DG algebras*, Sci. China Ser. A **56** (2013), 79–89
- [52] With T. Holm and D. Yang, *Sparseness of t -structures and negative Calabi-Yau dimension in triangulated categories generated by a spherical object*, Bull. London Math. Soc. **45** (2013), 120–130
- [53] With D. Pauksztello, *The co-stability manifold of a triangulated category*, Glasg. Math. J. **55** (2013), 161–175
- [54] With T. Holm, *Realising higher cluster categories of Dynkin type as stable module categories*, Q. J. Math. **64** (2013), 409–435
- [55] With K. Kato, *Triangulated subcategories of extensions, stable t -structures, and triangles of recollements*, J. Pure Appl. Algebra **219** (2015), 5500–5510
- [56] With T. Holm, *Cluster tilting vs. weak cluster tilting in Dynkin type A infinity*, Forum Math. **27** (2015), 1117–1137
- [57] With T. Holm and M. Rubey, *Torsion pairs in cluster tubes*, J. Algebraic Combin. **39** (2014), 587–605
- [58] With D. Pauksztello, *Classification of co-slicings and co- t -structures for the Kronecker algebra*, J. Pure Appl. Algebra **219** (2015), 569–590
- [59] With T. Holm, *SL_2 -tilings and triangulations of the strip*, J. Combin. Theory Ser. A **120** (2013), 1817–1834
- [60] With T. Holm and M. Rubey, *Ptolemy diagrams and torsion pairs in the cluster categories of Dynkin type D* , Adv. in Appl. Math. **51** (2013), 583–605

- [61] With C. Bessenrodt and T. Holm, *Generalized frieze pattern determinants and higher angulations of polygons*, J. Combin. Theory Ser. A **123** (2014), 30–42
- [62] With T. Holm, *Generalised friezes and a modified Caldero-Chapoton map depending on a rigid object*, Nagoya Math. J. **218** (2015), 101–124
- [63] With O. Iyama and D. Yang, *Intermediate co- t -structures, two-term sifting objects, τ -tilting modules, and torsion classes*, Algebra and Number Theory **8** (2014), 2413–2431
- [64] With T. Holm, *Generalised friezes and a modified Caldero-Chapoton map depending on a rigid object, II*, Bull. Sci. Math. **140** (2016), 112–131
- [65] *Torsion classes and t -structures in higher homological algebra*, Internat. Math. Res. Notices **2016** (2016), 3880–3905
- [66] With C. Bessenrodt and T. Holm, *All SL_2 -tilings come from infinite triangulations*, Adv. Math. **315** (2017), 194–245
- [67] *Co- t -structures: The First Decade*, pp. 25–36 in “Surveys in Representation Theory of Algebras” (edited by Martsinkovsky, Igusa, and Todorov), Contemporary Mathematics, Vol. 716, Amer. Math. Soc., Providence, RI, 2018.
- [68] With H. Holm, *Cotorsion pairs in categories of quiver representations*, to appear in Kyoto J. Math.
- [69] With M. Herschend and L. Vaso, *Wide subcategories of d -cluster tilting subcategories*, preprint (2017)
- [70] With T. Holm, *A p -angulated generalisation of Conway and Coxeter’s theorem on frieze patterns*, to appear in Internat. Math. Res. Notices
- [71] With M. Yakimov, *c -vectors of 2-Calabi–Yau categories and Borel subalgebras of \mathfrak{sl}_∞* , preprint (2017)
- [72] With S. Gratz and T. Holm, *Cluster tilting subcategories and torsion pairs in Igusa–Todorov cluster categories of Dynkin type A_∞* , Math. Z. **292** (2019), 33–56
- [73] With Karin M. Jacobsen, *d -abelian quotients of $(d + 2)$ -angulated categories*, J. Algebra **521** (2019), 114–136
- [74] *Tropical friezes and the index in higher homological algebra*, preprint (2018)
- [75] With Karin M. Jacobsen, *Maximal τ_d -rigid pairs*, preprint (2018)
- [76] With H. Holm, *Model categories of quiver representations*, preprint (2019)