

Curriculum Vitae Prof.dr. N.P. Landsman (1963) as of November 2010

Academic positions

- 1985–1989: Scientific Assistant, University of Amsterdam, Institute for Theoretical Physics
- 1989–1991: Research Assistant, Department of Applied Mathematics and Theoretical Physics (DAMTP), University of Cambridge
- 1991–1993: Advanced Research Fellow, DAMTP, University of Cambridge
- 1993–1994: Alexander von Humboldt Fellow, Institute for Theoretical Physics, University of Hamburg
- 1994–1997: Advanced Research Fellow, DAMTP, University of Cambridge
- 1997–2002: KNAW (Royal Academy) Research Fellow, Korteweg-De Vries Institute for Mathematics (KdV), University of Amsterdam
- 1999–2000: Assistant Professor of Mathematics, KdV, University of Amsterdam
- 2000–2001: Associate Professor of Mathematics, KdV, University of Amsterdam
- 2001–2004: Full Professor of Mathematical Physics, KdV, University of Amsterdam
- 2004–2007: Full Professor of Analysis, Institute for Mathematics, Astrophysics, and Particle Physics (IMAPP), Radboud University Nijmegen
- 2007–present: Full Professor of Mathematical Physics (IMAPP), Radboud University

Awards

- Cum laude* for MSc (1985) and PhD (1989) degrees
- Advanced Research Fellowship, EPSRC (UK), 1991–1997
- Alexander von Humboldt Fellowship, FRG 1993–94
- KNAW (Royal Netherlands Academy of Arts and Sciences) Fellowship, 1997–2002
- NWO (Dutch Science Organisation) Pioneer Award, 1 Million Euro, 2002–2007

Other major external funding as Principal Investigator (unit: 1000 Euro)

- 2000–2002: Spin-statistics connection and Unruh effect in QFT (100), 1 postdoc (pd)
- 2001–2003: Braided categories, operator algebras and quantum groupoids (100), 1 pd
- 2002–2005: Quantization and E-theory (150), 1 PhD
- 2006–2010: Geometry and Quantum Theory (2.800), national mathematics cluster
- 2009–2013: Topos theory, noncommutative geometry, and quantum logic (200), 1 PhD
- 2011–2015: NWO, TOP-GO (750), 3PhD, 1 pd (with B. Jacobs and I. Moerdijk)

Administration

- 2001–2006: Board member, Dutch Association of Mathematical Physics
- 2005–2007: Chair, Teaching Committee for Mathematics, Radboud University
- 2006–2009: Deputy director, Institute for Mathematics, Astrophysics and Particle Physics, Faculty of Science, Radboud University
- 2006–2008: Member, Mathematics Sounding Board (Resonansgroep Wiskunde) of the Dutch Ministry of Education, Culture and Science
- 2006–2008: Member, Scientific Council of *Talentenkracht* (National research programme on children aged 5-8)
- 2007–2009: Ambassador, Platform Beta Techniek of the Dutch Government
- 2007–present: Member, Mathematics Council of Lorentz Center (Leiden)
- 2007–present: Member, Board of the Senate of the Radboud University Nijmegen
- 2008: Co-author, *Masterplan Toekomst Wiskunde* (Master Plan for the Future of Mathematics) for the Dutch Minister of Education, Culture and Science
- 2008–present: Member, Council for Technical Sciences, Mathematics, Informatics, and Natural Sciences of the Royal Netherlands Academy of Arts and Sciences
- 2009: Coordinator and principal author, *Self-Evaluation of Mathematics Research at the Radboud University Nijmegen*

Editorships

- International Journal of Geometric Methods in Modern Physics, editor, 2004–present
- Studies in History and Philosophy of Modern Physics, associate editor, 2006–present
- Nieuw Archief voor Wiskunde (Dutch Mathematical Journal), editor, 2006–present
- Fundamental Theories in Physics, Springer-Verlag, series editor, 2010–present

PhD students

1. Urs A. Wiedemann, *Constraints and Symmetry Breaking in Quantum Field Theory* (Cambridge, 1994).
2. Thomas Breuer, *Classical Observables, Measurement, and Quantum Mechanics* (Cambridge, 1995).
3. Mark A. Robson, *The Geometric Quantization of Constrained Systems* (Cambridge, 1995).
4. Ken K. Wren, *Constrained Quantization of Yang-Mills Theory via Rieffel Induction* (Cambridge, 1998).
5. Hessel Posthuma, *Quantization of Hamiltonian loop group actions* (Amsterdam, 2003).

6. Rogier Bos, *Groupoids in geometric quantization* (Nijmegen, 2007).
7. Peter Hochs, *Quantisation commutes with reduction for cocompact Hamiltonian group actions* (Nijmegen, 2008).
8. Niels Kowalzig, *Hopf algebroids and their cyclic theory* (Utrecht, 2009).
9. Chris Heunen, *Categorical quantum models and logics* (Nijmegen, 2010)
10. Sander Wolters

MSc students

1. Edwin Koopman, *Dimensional reduction at high temperature revisited* (Amsterdam, 1989)
2. Joris Portegies Zwart, *BRST reduction and quantization of constrained Hamiltonian systems* (Amsterdam, 1998)
3. Erik van Erp, *The Atiyah-Singer index theorem, K-theory, and quantization* (Amsterdam, 2000)
4. Rachel Brouwer, *A bicategorical approach to Morita equivalence for rings and von Neumann algebras* (Amsterdam, 2001)
5. Walter van Suijlekom, *The noncommutative Lorentzian cylinder as an isospectral deformation* (Amsterdam, 2002)
6. Fonger Ypma, *Quasicrystals, C*-algebras and K-theory* (Amsterdam, 2004)
7. Bram Buijs, *The cohomological descent method* (Amsterdam, 2005)
8. Bram Mesland, *Algebraic K-theory, periodic cyclic homology, and the Connes-Moscovici index theorem* (Amsterdam, 2005)
9. Michelangelo Vargas Rivera, *Noncommutative geometry and the integer quantum Hall effect* (Amsterdam, 2005)
10. Martijn Caspers, *Gelfand spectra of C*-algebras in topos theory* (Nijmegen, 2008)
11. Hanneke Janssen (†), *Reconstructing Reality* (Nijmegen, 2008)
12. Ronnie Hermens, *Quantum mechanics: From Realism to Intuitionism* (Nijmegen, 2009)

Research monographs

1. *Concepts in Thermal Field Theory*, PhD Thesis (University of Amsterdam, 1989).
2. *Mathematical Topics Between Classical and Quantum Mechanics* (Springer, New York, 1998).
3. *Quantization of Singular Symplectic Quotients* (Birkhäuser, Basel, 2001). With M. Pflaum & M. Schlichenmaier (Editors).

Book chapters

1. Quantized reduction as a tensor product. *Quantization of Singular Symplectic Quotients*, eds. N.P. Landsman, M. Pflaum, M. Schlichenmaier, pp. 137–180 (Birkhäuser, Basel, 2001). [arXiv:math-ph/0008004](#).
2. Between classical and quantum. *Handbook of the Philosophy of Science, Vol. 2: Philosophy of Physics*, Eds. J. Butterfield & J. Earman, pp. 417–554 (North-Holland, Amsterdam, 2007). [arXiv:quant-ph/0506082](#).
3. Algebraic quantum mechanics. The Born rule and its interpretation. Quantization (systematic). Quasi-classical limit. *Compendium of Quantum Physics*, Eds. D. Greenberger, K. Hentschel, and F. Weinert, pp. 6–9, 64–70, 510–513, 626–629 (Springer, 2009).
4. Bohrification (with C. Heunen and B. Spitters). To appear in *Deep Beauty*, Ed. H. Halvorson (Cambridge University Press, to appear). [arXiv:0909.3468](#).

Refereed journal articles

1. Consistent real-time propagators for any spin, mass, temperature and density, *Physics Letters* **B172**, 46–48 (1986).
2. Real- and imaginary-time field theory at finite temperature and density (with Ch.G. van Weert), *Physics Reports* **145**, 141–249 (1987).
3. Hilbert space and propagator in thermal field theory, *Physical Review Letters* **60**, 1909–1912 (1988)
4. Non-shell unstable particles in thermal field theory, *Annals of Physics (N.Y.)* **186**, 141–205 (1988).
5. How dissipation solves the infrared problem in thermal QCD, *Physica* **A158**, 200–224 (1989).
6. Limitations to dimensional reduction at high temperature, *Nuclear Physics* **B322**, 498–530 (1989).
7. Large-mass and high-temperature behaviour in perturbative quantum field theory, *Communications in Mathematical Physics* **125**, 643–660 (1989).
8. Dimensional reduction at high temperature revisited (with E.L.M. Koopman), *Physics Letters* **B223**, 421–424 (1989).
9. A gauge-independent coupling constant in thermal QCD, *Physics Letters* **B232**, 240–246 (1989).
10. C^* -algebraic quantization and the origin of topological quantum effects, *Letters in Mathematical Physics* **20**, 11–18 (1990).
11. Quantization and superselection sectors I. Transformation group C^* -algebras, *Reviews in Mathematical Physics* **2**, 45–72 (1990).

12. Quantization and superselection sectors II. Dirac Monopole and Aharonov-Bohm effect, *Reviews in Mathematical Physics* **2**, 73–104 (1990).
13. Algebraic theory of superselection sectors and the measurement problem in quantum mechanics, *International Journal of Modern Physics* **A6**, 5349–5372 (1991).
14. The geometry of inequivalent quantizations (with N. Linden), *Nuclear Physics* **B365**, 121–160 (1991).
15. Superselection rules from Dirac and BRST quantization of constrained systems (with N. Linden), *Nuclear Physics* **B371**, 415–433 (1992).
16. Induced representations, gauge fields, and quantization on homogeneous spaces, *Reviews in Mathematical Physics* **4**, 503–528 (1992).
17. Deformations of algebras of observables and the classical limit of quantum mechanics, *Reviews in Mathematical Physics* **5**, 775–806 (1993).
18. Quantization and classicization: from Jordan-Lie algebras of observables to gauge fields, *Classical and Quantum Gravity*, **10**, S101–S108 (1993).
19. Quantization on Riemannian spaces from groupoid C^* -algebras, *International Journal of Modern Physics Proc. Suppl.* **3A**, 347–350 (1993).
20. Strict deformation quantization of a particle in external gravitational and Yang-Mills fields, *Journal of Geometry and Physics* **12**, 93–132 (1993).
21. Inaccuracy and spontaneous symmetry breaking in quantum measurements (with T. Breuer and A. Amann), *Journal of Mathematical Physics* **34**, 5441–5450 (1993).
22. Rieffel induction as generalized quantum Marsden-Weinstein reduction, *Journal of Geometry and Physics* **15**, 285–319 (1995), Err. **17** (1995) 298, [arXiv:hep-th/9305088](https://arxiv.org/abs/hep-th/9305088).
23. Observation and superselection in quantum mechanics, *Studies in History and Philosophy of Modern Physics* **26**, 45–73 (1995). [arXiv:hep-th/9411173](https://arxiv.org/abs/hep-th/9411173).
24. Massless particles, electromagnetism, and Rieffel induction (with U.A. Wiedemann), *Reviews in Mathematical Physics* **7**, 923–958 (1995). [arXiv:hep-th/9411174](https://arxiv.org/abs/hep-th/9411174).
25. The Stueckelberg-Kibble model as an example of quantized symplectic reduction (with U.A. Wiedemann), *Journal of Mathematical Physics* **37**, 2731–2747, (1996). [arXiv:hep-th/9508134](https://arxiv.org/abs/hep-th/9508134).
26. Local Quantum Physics, *Studies in History and Philosophy of Modern Physics* **27**, 511–525 (1996).
27. Classical behaviour in quantum mechanics: a transition probability approach, *International Journal of Modern Physics* **B10**, 1545–1554 (1996). [arXiv:quant-ph/9511001](https://arxiv.org/abs/quant-ph/9511001).
28. Against the Wheeler-DeWitt equation, *Classical and Quantum Gravity* **12**, L119–L123 (1995). [arXiv:gr-qc/9510033](https://arxiv.org/abs/gr-qc/9510033).
29. Poisson spaces with a transition probability, *Reviews in Mathematical Physics* **9**, 29–57 (1997). [arXiv:quant-ph/9603005](https://arxiv.org/abs/quant-ph/9603005).

30. Simple new axioms for quantum mechanics, *International Journal of Theoretical Physics* **37** (1998) 343–348, [arXiv:quant-ph/9604008](#).
31. Constrained quantization and θ -angles (with K.K. Wren), *Nuclear Physics* **B502** [PM], 537–560 (1997). [arXiv:hep-th/9706178](#).
32. Quantum Mechanics on Phase Space, *Studies in History and Philosophy of Modern Physics* **30**, 287–305 (1999).
33. Representations of the infinite unitary group from constrained quantization, *Journal of Nonlinear Mathematical Physics* **6**, 161–180 (1999).
34. Lie groupoid C^* -algebras and Weyl quantization, *Communications in Mathematical Physics* **206**, 367–381 (1999). [arXiv:math-ph/9903039](#).
35. Strict quantization of coadjoint orbits, *Journal of Mathematical Physics* **39**, 6372–6383 (1998). [arXiv:math-ph/9807027](#).
36. Twisted Lie group C^* -algebras as strict quantizations, *Letters in Mathematical Physics* **46**, 181–188 (1998). [arXiv:math-ph/9807028](#).
37. Comment on “What is a gauge transformation in quantum mechanics?”, *Physical Review Letters* **83**, 1070 (1999).
38. Bicategories of operator algebras and Poisson manifolds, *Mathematical Physics in Mathematics and Physics: Quantum and Operator Algebraic Aspects*, ed. R. Longo, *Fields Institute Communications* **30**, 271–286 (2001). [arXiv:math-ph/0008003](#).
39. The Muhly-Renault-Williams theorem for Lie groupoids and its classical counterpart, *Letters in Mathematical Physics* **54**, 43–59 (2001). [arXiv:math-ph/0008005](#).
40. Operator algebras and Poisson manifolds associated to groupoids, *Communications in Mathematical Physics* **222**, 97–116 (2001). [arXiv:math-ph/0008036](#).
41. Getting even with Heisenberg, *Studies in History and Philosophy of Modern Physics* **33**, 297–325 (2002).
42. Deformation quantization and the Baum–Connes conjecture, *Communications in Mathematical Physics*, **237**, 87–103 (2003). [arXiv:math-ph/0210015](#).
43. Quantum mechanics and representation theory: the new synthesis, *Acta Applicandae Mathematica* **81**, 167–189 (2004).
44. Lie Groupoids and Lie algebroids in physics and noncommutative geometry, *Journal of Geometry and Physics* **56**, 24–54 (2006). [arXiv:math-ph/0506024](#)
45. When champions meet: Rethinking the Bohr–Einstein debate, *Studies in History and Philosophy of Modern Physics*, **37**, 212–242 (2006). [arXiv:quant-ph/0507220](#).
46. The Guillemin–Sternberg conjecture for noncompact groups and spaces (with P. Hochs). *Journal of K-theory* **1**, 473–533 (2008). [arXiv:math-ph/0512022](#).
47. Macroscopic observables and the Born rule, *Reviews in Mathematical Physics* **20**, 1173–1190 (2008). [arXiv:0804.4849](#).

48. A topos for algebraic quantum theory (with C. Heunen and B. Spitters), *Communications in Mathematical Physics* **291**, 63–110 (2009). [arXiv:0709.4364](#).
49. Intuitionistic quantum logic of an n-level system (with M. Caspers, C. Heunen and B. Spitters), *Foundations of Physics* **39**, 731–759 (2009). [arXiv:0902.3201](#).
50. Bohrification of operator algebras and quantum logic (with C. Heunen and B. Spitters), *Synthese*, to appear. [arXiv:0905.2275](#).
51. The Gelfand spectrum of a noncommutative C*-algebra: a topos-theoretic approach (with C. Heunen, B. Spitters, and S. Wolters), *J. Australian Mathematical Society*, to appear. [arXiv:1010.2050](#).

Refereed conference proceedings

1. Universal quantum field theory, *Proceedings of the CAP-NSERC Summer Institute in Theoretical Physics*, eds. F.C.Khanna and H. Umezawa (World Scientific, Singapore), 204–226 (1988).
2. The inherent non-perturbativeness of thermal field theories (and a possible perturbativization), *Nuclear Physics A525 Proceedings Supplement, Quark Matter '90*, 397c–400c (1991).
3. Classical and quantum representation theory, *Proc. Sem. Mathematical Structures in Field Theory 1989-1990*, eds. E. A. de Kerf and H.G.J. Pijls, *CWI-syllabus* **39**, Amsterdam, 135–163 (1996), [arXiv:hep-th/9411172](#).
4. Disjoint final states in quantum measurements (with T. Breuer and A. Amann), *Proc. Symp. Foundations of Modern Physics 1993*, eds. P. Busch, P. Lahti, and P. Mittelstaedt (World Scientific, Singapore), 118–126 (1993).
5. The quantization of constrained systems: from symplectic reduction to Rieffel induction, *Quantization, Coherent States and Poisson Structures. Proc. XIV'th Workshop on Geometric Methods in Physics, Białowieża, 1995*, eds. A. Strasburger et al. (Polish Scientific Publishers, Warsaw), 73–89 (1998), [arXiv:dg-ga/9601009](#).
6. Classical reduction and quantum induction in constrained systems, *Physical Applications and Mathematical Aspects of Geometry, Groups, and Algebras, Proc. XXI Int. Colloquium on Group Theoretical Methods in Physics, Goslar 1996, Vol. 1*, eds. H.-D. Doebner, W. Scherer, and P. Nattermann (World Scientific, Singapore), 368–372 (1997).
7. Constrained quantization in algebraic field theory, *Meeting with the Platypus. Proc. XIIth Int. Congress of Mathematical Physics, Brisbane 1997*, eds. A.J. Bracken et al. (International Press, Boston), pp. 191–196 (1999). [arXiv:math-ph/9807029](#).
8. Quantization of singular systems and incomplete motions, *Current Topics in Mathematical Cosmology*, eds. M. Rainer and H.-J. Schmidt (World Scientific, Singapore), 256–263 (1998), [arXiv:gr-qc/9807069](#).
9. Hall's coherent states, the Cameron-Martin theorem, and the quantization of Yang-Mills theory on a circle (with K.K. Wren), *Coherent States, Quantization and Gravity*, eds. M. Schlichenmaier et al. (WUW, Warszawa, 2001), 23–36, [arXiv:math-ph/9812012](#).

10. Compact quantum groupoids, *Quantum Theory and Symmetries*, (Goslar 1999), eds. H.-D. Doebner et al., 421–431 (World Scientific, 2000), [arXiv:math-ph/9912006](#).
11. Quantization of Poisson algebras associated to Lie algebroids (with B. Ramazan), *Proceedings of the Conference on Groupoids in Physics, Analysis and Geometry* (Boulder 1999), eds. A. Ramsay and J. Renault, *Contemporary Mathematics* **282**, 159–192 (AMS, Providence, 2001), [arXiv:math-ph/0001005](#).
12. Quantization as a functor, *Quantization, Poisson Brackets, and Beyond*, ed. T. Voronov, *Contemporary Mathematics* **315**, 9–24 (AMS, Providence, 2002). [arXiv:math-ph/0107023](#).
13. Quantization and the tangent groupoid, *Operator Algebras and Mathematical Physics*, eds. J.-M. Combes, et al., 251–265 (Theta Foundation, 2003), [arXiv:math-ph/0208004](#).
14. Functorial Quantization and the Guillemin-Sternberg Conjecture, in: *Twenty Years of Białowieża: A Mathematical Anthology. Aspects of Differential Geometric Methods in Physics*, (eds. S.T. Ali, G.G. Emch, A. Odziejewicz, M. Schlichenmaier, S.L. Woronowicz), pp. 23–45 (World Scientific, Singapore, 2005). [arXiv:math-ph/0307059](#).
15. The principle of general covariance (with C. Heunen and B. Spitters). *Proc. XVI International Fall Workshop on Geometry and Physics (Lisabon, 2007)*, eds. R.L. Fernandes and R. Picken, pp. 93–102 (American Physical Society, Melville, 2008). [philsci-archive:3931](#).
16. Bohrfication (with C. Heunen and B. Spitters), *Deep Beauty: Understanding the Quantum World through Mathematical Innovation*, ed. H. Halvorson (Cambridge University Press, 2011). [arXiv:0909.3468](#).

Book reviews (see www.math.ru.nl/~landsman/eprints.html)

1. *John von Neumann: The Scientific Genius who Pioneered the Modern Computer, Game Theory, Nuclear Deterrence, and Much More* by N. Macrea, and *John von Neumann and Norbert Wiener: From Mathematics to the Technologies of Life and Death* by S. Heims (in Dutch), STROOM.
2. *QED and the Men Who Made it* by S.S. Schweber (in Dutch), Nederlands Tijdschrift voor Natuurkunde.
3. *An Introduction to Noncommutative Spaces and their Geometries* by G. Landi (in Dutch), Nieuw Archief voor Wiskunde.
4. *Quantum Field Theory for Mathematicians* by R. Ticciati (in Dutch), Nieuw Archief voor Wiskunde.
5. *The Physics of Quantum Fields* by M. Stone, Nieuw Archief voor Wiskunde.
6. *Analytic K-Homology* by N. Higson and J. Roe (in Dutch), Nieuw Archief voor Wiskunde.
7. *Stochastic Processes and Operator Calculus on Quantum Groups* by U. Franz and R. Schott (in Dutch), Nieuw Archief voor Wiskunde.

8. *State Spaces of Operator Algebras* by E. Alfsen and F. Shultz (in Dutch), Nieuw Archief voor Wiskunde.
9. *Guardians of the Humanist Legacy: The Classicism of T.S. Eliot's Criterion Network and its Relevance to our Postmodern World* by Jeroen Vanheste and *Beginnen met Filosofie: Met andere ogen kijken naar je eigen leven* by Luc Ferry (in Dutch). Unpublished.
10. *Michael Frayn's "Copenhagen" in Debate: Historical Essays and Documents on the 1941 Meeting Between Niels Bohr and Werner Heisenberg*, Studies in History and Philosophy of Modern Physics.
11. *Decoherence and the Quantum-To-Classical Transition* by Maximilian Schlosshauer, Studies in History and Philosophy of Modern Physics.
12. *Linear Operators and their Spectra* by Brian Davies, Mathematical Intelligencer.
13. *Reexamining the Quantum-Classical Relation: Beyond Reductionism and Pluralism* by Alisa Bokulich, Notre Dame Philosophical Review.
14. *Newton in Nederland* by Ad Maas, *Isaac Newton en het ware weten* by Floris Cohen, *Op de schouders van reuzen: de mechanica van Isaac Newton* by Maris van Haandel en Gert Heckman, *Isaac Newton on mathematical certainty and method* by Niccolo Guicciardini (in Dutch), Nieuw Archief voor Wiskunde.

Popular articles (in Dutch, see www.math.ru.nl/~landsman/eprints.html)

1. De erfenis van Dirac en von Neumann (The inheritance of Dirac and von Neumann), Nederlands Tijdschrift voor Natuurkunde 64 (1998), 151-153.
2. Heisenberg en de Duitse atoombom (Heisenberg and the German atomic bomb), Nederlands Tijdschrift voor Natuurkunde 67 (2001), 178-181.
3. Hoe geef ik een wiskundige voordracht? (How to give a mathematical talk), Nieuw Archief voor Wiskunde 5/2 (2001), 351-355.
4. Wiskunde aan de grenzen van de natuurkunde (Mathematics at the frontier of physics), Nieuw Archief voor Wiskunde 5/3 (2002), 24-32.
5. Wie was Thomas Young? (Who was Thomas Young?), Nederlands Tijdschrift voor Natuurkunde 69 (2003), 40-44.
6. De dramatiek van de natuurkunde: toneelstukken van Frayn en Rijnders onder de loep (Drama of physics: an analysis of stage plays by Frayn and Rijnders), Kunst en Wetenschap 12 (2) (2003), 5-8.
7. Brilljante gifmenger: een portret van Isaac Newton (Brilliant alchemist: portrait of Isaac Newton), Academische Boekengids 39 (juni 2003), 13-14.
8. De indexstelling van Atiyah en Singer (The index theorem of Atiyah and Singer), Nieuw Archief voor Wiskunde 5/5 (2004), 207-211.
9. Op het kruispunt (At crossroads), Nieuw Archief voor Wiskunde 5/6 (2005), 206-214.

10. Waarom is er iets en niet niets? De visie van Hans Küng (Why is there something rather than nothing?: the view of Hans Küng), *Nederlands Tijdschrift voor Natuurkunde* 72 (2006), 270-272.
11. Bestaat Toeval? (Does pure chance exist?), *Nieuwe Wiskrant* 26 (1) (2006), 21-26.
12. Op zoek naar de intellectueel (In search of the intellectual), *Civis Mundi* 46 (1) (2007), 40-49.
13. Taal en werkelijkheid: Einstein tegen Bohr (Language and reality: Einstein versus Bohr), *BLIND!* online.
14. Plato, wiskunde en het gymnasium (Plato, mathematics and grammar school today), *Amphora* 25 (6) (2006), 8-10.
15. Blijf niet mokkend aan de kant staan (Be bothered [by the current standard of the national math syllabus]), *Nieuw Archief voor Wiskunde* 5/8 (2007), 51-55.
16. Toeval is logisch (Chance is logical), *Nieuwe Wiskrant* 26 (4) (2007), 42-47.
17. A random walk down Wall Street (*Nieuw Archief voor Wiskunde* 5/9 (2008), 18-23.
18. Where have all the students gone? (*Nieuw Archief voor Wiskunde* 5/9 (2008), 138-140.
19. Wanneer ga ik dood? (When am I going to die?), *Nederlands Tijdschrift voor Natuurkunde* 74 (2008), 98-101.
20. Wiskundetoernooi 2008: wat kun je nu eigenlijk met wiskunde? (met Dion Coumans en Mirte Dekkers) (*Nieuwe Wiskrant* 28, 12-14 2008)
21. Christiaan Huygens: *Traité de la Lumiere* (with Fokko Jan Dijksterhuis), *Boekenwijsheid*, Jan Bos en Erik Geleijns (red.), pp. 177-185 (Walburg Pers, Zuthpen, 2009).
22. Spiritualiteit tussen kwal en kosmos (Spirituality between jellyfish and cosmos), *Zien Is Geloven*, Manon Duintjer (red.), pp. 115-127 (Ambo, Amsterdam, 2009).
23. Terug naar de werkelijkheid (Back to reality [in math education]), *Nieuw Archief voor Wiskunde* 5/10 (2009), 48-50.
24. De overval: Fox-IT (A visit to the Fox-IT company), with Matthijs Coster and Bart Jacobs, *Nieuw Archief voor Wiskunde* 5/10 (2009), 91-93.
25. De "Vrije Wil-Stelling van Conway en Kochen (The Free Will Theorem of Conway and Kochen), *Nieuw Archief voor Wiskunde* 5/10 (2009), 228-234.
26. De overval: AllOptions (A visit to the AllOptions company), with Hans Melissen and Wil Schilders, *Nieuw Archief voor Wiskunde* 5/10 (2009), 245-249.
27. Wiskunde opstuwen in de vaart der volkeren: interview met Chris Zaal (met Rainer Kaenders), *Nieuw Archief voor Wiskunde* 5/11 (2010), 39-42
28. The flashes of insight never came for free: interview with Alain Connes (met Gunther Cornelissen and Walter van Suijlekom), *Nieuw Archief voor Wiskunde* 5/11 (2010)

Invited plenary presentations at international conference (1998–2010)

Workshop on Non-Commutative Geometry and Fundamental Interactions (Vietri, 1998)
International Seminar on Current Topics in Mathematical Cosmology (Potsdam, 1998)
XVII'th Workshop on Geometric Methods in Physics (Bialowieza, 1998)
Foundations and Constructive Aspects of Quantum Field Theory (Potsdam, 1998)
Conference on Groupoids in Physics, Geometry, and Analysis (Boulder, 1999)
Quantum Theory and Symmetries (Goslar, 1999)
XVIIIth Workshop on Geometric Methods in Physics (Bialowieza, 1999)
Gauge Theories and Noncommutative Geometry (Leiden, 1999)
Noncommutative Geometry (Oberwolfach, 2000)
Workshop on Quantization (Warwick, 2000)
Noncommutative Spaces and Gauge Theory (Berlin, 2001)
Quantization and Noncommutative Geometry (MSRI, Berkeley, 2001)
Operator Algebras and Mathematical Physics (Constanta, Romania, 2001)
New Homological and Categorical Methods in Mathematical Physics (Manchester, 2001)
Quantization of Poisson spaces with Singularities, (Oberwolfach, 2003)
Noncommutative Geometry in Mathematics and Physics (Marseille-Luminy, 2004)
Geometric Analysis (Marseille-Luminy, 2004)
Workshop zu Indextheorie und Quantisierung (Frankfurt, 2004)
MRI Workshop on Lie Groups in Analysis, Geometry, and Mechanics (Utrecht, 2004)
K-theory and Noncommutative Geometry (Paris, 2004)
Foundations of Physics (Pittsburgh, 2004)
New Directions in the Foundations of Physics (Maryland, 2005)
Seven Pines Symposium IX: The Classical-Quantum Borderland (Stillwater, 2005)
Joint BeNeLuxFra Conference in Mathematics (Gent, 2005)
Noncommutative Geometry and Quantum Field Theory (Oberwolfach, 2005)
Dutch Mathematical Congress (Delft, 2006)
Cats, Kets and Cloisters (Oxford, 2006)
Groupoids in operator algebras and noncommutative geometry (Paris, 2007)

Operational quantum physics and the quantum-classical contrast (Waterloo, 2007)
 XVI International Fall Workshop on Geometry and Physics (Lisabon, 2007)
 Deep Beauty: John von Neumann memorial conference (Princeton, 2007)
 Fredenhagen Fest (Hamburg, 2007)
 Reduction and the Special Sciences (Tilburg, 2008)
 Classical Concepts & Metaphysical Presuppositions in Quantum Theory (Granada, 2008)
 Foundations and Constructive Aspects of Quantum Field Theory (Göttingen, 2009)
 New Directions in the Foundations of Physics (Washington DC, 2009)
 Categories, Quanta, Concepts (Perimeter Institute, Waterloo, 2009)
 ESF Conference on ‘The Philosophy of Science in a European Perspective’ (Zeist, 2009)
 North American Annual Meeting, Association for Symbolic Logic (Washington DC, 2010)
 Geometry and Quantum Field Theory: Carey60 (Bonn, 2010)
 Quantum Physics and the Nature of Reality (Oxford, 2010)
 Eight Annual East Coast Operator Algebras Symposium (Hanover, 2010)
 Category Theoretical Reflections on the Foundations of Physics (Montreal, 2010)
 Quantization of Singular Spaces (Aarhus, 2010)

Organisation of international conferences (1998–2010)

Workshop on Quantization, Operator Algebras, and Knots, Enschede, 8–10-10-1998;
First Dutch Spring School on Mathematical Physics, Nijmegen, 8–12-3-1999;
Quantization of Singular Symplectic Quotients, Oberwolfach, 2–7-08-1999;
Workshop on Quantization and Noncommutative Geometry, Berkeley, 23–27-04-2001;
Quantization of Poisson spaces with Singularities, Oberwolfach, 19–25-01-2003;
Workshop on Noncommutative Geometry, Amsterdam, 21–23-05-2003;
IMAPP-Symposium, Nijmegen, 13-10-2006, featuring Küng, Penrose, ’t Hooft, Zagier;
Workshop on index theory on singular spaces, Nijmegen 28–29-11-2006.
Mathematical Physics Symposium, 9-3-2007, featuring Atiyah, Penrose, Yoccoz, Werner;
Applications of Noncommutative Geometry, 17-7-2008, Amsterdam (5ecm).
Workshop on Sheaves in Geometry and Quantum Theory, Nijmegen, 3–5-09-2008.