

Curriculum Vitae Prof.dr. N.P. Landsman (1963)

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 Grant, 1 Million Euro, 2002–2007

Other major external funding as Principal Investigator (× 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

Administration

- 2001–2006: Board member, Dutch Association of Mathematical Physics
- 2005–2007: Chair, Teaching Committee for Mathematics, Radboud University
- 2006–present: 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–present: 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)

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, 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*, J. Butterfield & J. Earman (Eds.), 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*, D. Greenberger, K. Hentschel, and F. Weinert (Eds.), 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). [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](#).

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, Warsaw, 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 Bialowieza: 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 (Lisbon, 2007)*, eds. R.L. Fernandes and R. Picken, pp. 93–102 (American Physical Society, Melville, 2008). [philsci-archive:3931](#).

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)
2. *QED and the Men Who Made it* by S.S. Schweber (in Dutch)
3. *An Introduction to Noncommutative Spaces and their Geometries* by G. Landi (in Dutch)
4. *Quantum Field Theory for Mathematicians* by R. Ticciati (in Dutch)
5. *The Physics of Quantum Fields* by M. Stone
6. *Analytic K-Homology* by N. Higson and J. Roe (in Dutch)
7. *Stochastic Processes and Operator Calculus on Quantum Groups* by U. Franz and R. Schott (in Dutch)
8. *State Spaces of Operator Algebras* by E. Alfsen and F. Shultz (in Dutch)
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)
10. *Michael Frayn's "Copenhagen" in Debate: Historical Essays and Documents on the 1941 Meeting Between Niels Bohr and Werner Heisenberg*
11. *Decoherence and the Quantum-To-Classical Transition* by Maximilian Schlosshauer
12. *Linear Operators and their Spectra* by Brian Davies

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), Jan Bos en Erik Geleijns (red.), *Hoogtepunten uit de STCN*, 2009.
22. Spiritualiteit tussen kwal en kosmos (Spirituality between jellyfish and cosmos), Zien Is Geloven, red. Manon Duintjer, 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* 5/12 (2009), in press.
26. De overval: AllOptions ((A visit to the AllOptions company), with Hans Melissen and Wil Schilders, *Nieuw Archief voor Wiskunde* 5/12 (2009), in press.

Invited plenary presentations at international conference (1998–2009)

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).

Organisation of international conferences (1998–2009)

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 etc.;
Workshop on index theory on singular spaces, Nijmegen 28–29-11-2006.
Mathematical Physics Symposium, 9-3-2007, featuring Atiyah, Penrose, Yoccoz, and Werner;
Applications of Noncommutative Geometry, 17-7-2008, Amsterdam (5ecm).