

Full list of publications

Martin Raussen

Doctoral dissertation

M. Raussen. Contributions to directed algebraic topology – with inspirations from concurrency theory. Aalborg University, Department of Mathematical Sciences, 2014. xv+63 pp.

Short version Full version

Mathematical Papers

In *reverse* chronological order, based on Mathematical Reviews and Zentralblatt für Mathematik und ihre Grenzgebiete:

- [1] M. Raussen and K. Ziemiański. Homology of spaces of directed paths on euclidean cubical complexes. *J. Homotopy Relat. Struct.*, 9(1):67–84, 2014.
- [2] M. Raussen. Simplicial models for trace spaces II: General higher-dimensional automata. *Algebr. Geom. Topol.*, 12(3):1745–1765, 2012.
- [3] M. Raussen. Execution spaces for simple higher dimensional automata. *Appl. Algebra Engrg. Comm. Comput.*, 23:59–84, 2012.
- [4] L. Fajstrup, É. Goubault, E. Haucourt, S. Mimram, and M. Raussen. Trace Spaces: An Efficient New Technique for State-Space Reduction. In H. Seidl, editor, *Programming Languages and Systems*, volume 7211 of *Lecture Notes in Computer Sci.*, pages 274–294. ESOP 2012, Springer-Verlag, 2012.
- [5] M. Raussen. Simplicial models for trace spaces. *Algebr. Geom. Topol.*, 10:1683–1714, 2010.
- [6] M. Raussen. Trace spaces in a pre-cubical complex. *Topology Appl.*, 156(9):1718–1728, 2009.
- [7] M. Raussen. Reparametrizations with given stop data. *J. Homotopy Relat. Struct.*, 4(1):1–5, 2009.
- [8] U. Fahrenberg and M. Raussen. Reparametrizations of continuous paths. *J. Homotopy Relat. Struct.*, 2(2):93–117, 2007.
- [9] M. Raussen. Invariants of directed spaces. *Appl. Categ. Struct.*, 15(4):355–386, 2007.
- [10] R. Wisniewski and M. Raussen. Geometric analysis of nondeterminacy in dynamical systems. *Acta Inf.*, 43(7):501–519, 2007.
- [11] M. Raussen. Deadlocks and dihomotopy in mutual exclusion models. *Theor. Comput. Sci.*, 365(3):247–257, 2006.
- [12] L. Fajstrup, M. Raussen, and É. Goubault. Algebraic topology and concurrency. *Theor. Comput. Sci.*, 357(1–3):241–278, 2006.
- [13] L. Fajstrup, M. Raussen, É. Goubault, and E. Haucourt. Components of the fundamental category. *Appl. Categ. Struct.*, 12(1):81–108, 2004.

- [14] M. Raussen. A second look at normal curvature. *Normal*, 51(2):59–62, 2003.
- [15] M. Raussen. State spaces and dipaths up to dihomotopy. *Homology Homotopy Appl.*, 5(2):257–280, 2003.
- [16] É. Goubault and M. Raussen. Dihomotopy as a tool in state space analysis. Rajsbaum, Sergio (ed.), LATIN 2002: Theoretical informatics. 5th Latin American symposium, Cancun, Mexico, April 3–6, 2002. Proceedings. Berlin: Springer. Lecture Notes in Comput. Sci. 2286, 16-37, 2002.
- [17] M. Raussen. Symmetries on manifolds, deformations and rational homotopy: A survey. Bak, Anthony (ed.) et al., Current trends in transformation groups. Dedicated to the memory of Professor Katsuo Kawakubo. Dordrecht: Kluwer Academic Publishers. K-Monogr. Math. 7, 167-179, 2002.
- [18] M. Raussen. On the classification of dipaths in geometric models for concurrency. *Math. Struct. Comput. Sci.*, 10(4):427–457, 2000.
- [19] M. Raussen. Cyclic group actions on manifolds from deformations of rational homotopy types. *Math. Ann.*, 312(4):737–760, 1998.
- [20] L. Fajstrup, É. Goubault, and M. Raussen. Detecting deadlocks in concurrent systems. In *CONCUR'98: concurrency theory (Nice)*, volume 1466 of *Lecture Notes in Comput. Sci.*, pages 332–347. Springer, Berlin, 1998.
- [21] E. Laitinen and M. Raussen. Homotopy types of locally linear representation forms. *Manuscr. Math.*, 88(1):33–52, 1995.
- [22] M. Raussen. Circle actions on rational homology manifolds and deformations of rational homotopy types. *Trans. Am. Math. Soc.*, 347(1):137–153, 1995.
- [23] M. Raussen. Rational cohomology and homotopy of spaces with circle action. Algebraic topology, Proc. Conf., S. Feliu de Guíxols/Spain 1990, Lecture Notes in Math. 1509, 313-325 (1992)., 1992.
- [24] I. Madsen and M. Raussen. Locally linear representation forms. *Osaka J. Math.*, 27(3):567–591, 1990.
- [25] I. Madsen and M. Raussen. Smooth and locally linear G homotopy representations. Algebraic topology, Proc. Conf., Göttingen/Ger. 1984, Lecture Notes in Math. 1172, 130-156 (1985)., 1985.
- [26] J.M. Møller and M. Raussen. Rational homotopy of spaces of maps into spheres and complex projective spaces. *Trans. Am. Math. Soc.*, 292:721–732, 1985.
- [27] P. Löffler and M. Raussen. Symmetrien von Mannigfaltigkeiten und rationale Homotopietheorie. *Math. Ann.*, 271:549–576, 1985.
- [28] M. Raussen. Non-orthogonalisable vector fields on spheres. *Proc. Edinb. Math. Soc., II. Ser.*, 27:275–281, 1984.

- [29] M. Raussen and R. Wiegmann. *Liftings, homotopy liftings and localization applied to vector field and immersion theory*, volume 6 of *Osnabrücker Schriften zur Mathematik. Reihe M: Mathematische Manuskripte* [Osnabrück Publications in Mathematics. Series M: Mathematical Manuscripts]. Universität Osnabrück Fachbereich Mathematik, Osnabrück, 1984.
- [30] M. Raussen. Some invariants for vector field problems. *Topology, Proc. spec. Semin.*, Vol. 4, México 1982, 163-185, 1982.
- [31] M. Raussen. Symmetries on simply-connected manifolds. *Topology, Proc. spec. Semin.*, Vol. 4, Mexico 1982, 117-133, 1982.
- [32] M. Raussen. Liftings and homotopy liftings into fibre bundles: vector fields, unstable vector bundles, immersions. *Topology, Proc. spec. Semin.*, Vol. 2, México 1981, 133-150, 1981.
- [33] M. Raussen. *Liftungen und Homotopieliftungen in Faserbündel: Vektorfelder, instabile Vektorraumbündel, Immersionen. (Dissertation)*. PhD thesis, Mathematisch-Naturwissenschaftliche Fakultät der Georg-August-Universität zu Göttingen. XIII, 113 S., 1981.
- [34] M. Raussen and L. Smith. A geometric interpretation of sphere bundle boundaries and generalized J-homomorphisms with an application to a diagram of I. M. James. *Q. J. Math., Oxf. II. Ser.*, 30:113–117, 1979.
- [35] M. Raussen. Hurewicz isomorphism and Whitehead theorems in pro-categories. *Arch. Math.*, 30:153–164, 1978.

Interviews and articles in journals of mathematical societies

In reverse chronological order:

- [36] M. Raussen and Chr. Skau. Interview with Yakov Sinai – Abel laureate 2014. *Eur. Math. Soc. Newsl.*, 93:12–19, 2014.
- [37] M. Raussen and Chr. Skau. Interview with Abel laureate Pierre Deligne. *Eur. Math. Soc. Newsl.*, 89:15–23, 2013. Reprinted in *Notices Amer. Math. Soc.* **61** (2014), no. 2, 177–185.
- [38] M. Raussen and Chr. Skau. Interview with Abel laureate Endre Szemerédi. *Eur. Math. Soc. Newsl.*, 85:39–48, 2012. Reprinted in *Notices Amer. Math. Soc.* **60** (2013), no. 2, 221–231.
- [39] M. Raussen. Computational topology [book review]. *Eur. Math. Soc. Newsl.*, 82:58–59, 2011.
- [40] M. Raussen and Chr. Skau. Interview with Abel laureate John Milnor. *Eur. Math. Soc. Newsl.*, 81:31–40, 2011. Reprinted in *Notices Amer. Math. Soc.* **59** (2012), no. 3, 400 – 408.
- [41] M. Raussen and Chr. Skau. Interview with Abel laureate John Tate. *Eur. Math. Soc. Newsl.*, 77:41–48, 2010. Reprinted in *Notices Amer. Math. Soc.* **58** (2011), no. 3, 444 – 452.
- [42] M. Raussen and Chr. Skau. Interview with Abel laureate Mikhail Gromov. *Eur. Math. Soc. Newsl.*, 73:19–30, 2009. Reprinted in *Notices Amer. Math. Soc.* **57** (2010), no. 3, 391 – 403.
- [43] M. Raussen. Interview with Jacques Dixmier. *Eur. Math. Soc. Newsl.*, 72:34–41, 2009.

- [44] M. Raussen. Invitation to topological robotics [book review]. *Eur. Math. Soc. Newsl.*, 72:46–47, 2009.
- [45] M. Raussen and Chr. Skau. Interview with John G. Thompson and Jacques Tits. *Eur. Math. Soc. Newsl.*, 69:31–38, 2008. Reprinted in *Notices Amer. Math. Soc.* **56** (2009), no. 4, 471 – 478.
- [46] M. Raussen and A. Valette. An interview with Beno Eckmann. *Eur. Math. Soc. Newsl.*, 66:31–37, 2007. Reprinted in *math.ch/100* (Eds: B. Colbois, C. Riedtmann, V. Schroeder), EMS publishing house (2010), 389–401.
- [47] M. Raussen and Chr. Skau. Interview with Srinivasa Varadhan. *Eur. Math. Soc. Newsl.*, 65:33–40, 2007. Reprinted in *Notices Amer. Math. Soc.* **55** (2008), no. 2, 238–246.
- [48] U. Persson and M. Raussen. Two mathematicians forced to resign at Uppsala University, Sweden. *Eur. Math. Soc. Newsl.*, 64:15, 2007.
- [49] M. Raussen and Chr. Skau. Interview with Abel Prize recipient Lennart Carleson. *Eur. Math. Soc. Newsl.*, 61:31–36, 2006. Reprinted in *Notices Amer. Math. Soc.* **54** (2007), no. 2, 223–229 and *Mitt. Dtsch. Math.-Ver.* **14** (2006), no.4, 206–212.
- [50] M. Raussen and Chr. Skau. Interview with Peter D. Lax. *Eur. Math. Soc. Newsl.*, 57:24–31, 2005. Reprinted in *Notices Amer. Math. Soc.* **53** (2006), no. 2, 223–229.
- [51] M. Raussen and Chr. Skau. Interview with Michael Atiyah and Isadore Singer. *Eur. Math. Soc. Newsl.*, 53:24–30, 2004. Reprinted in *Notices Amer. Math. Soc.* **52** (2005), no. 2, 225–233 and *Mitt. Dtsch. Math. Ver.* **12** (2004), no. 4, 272–281.
- [52] M. Raussen and Chr. Skau. Interview with Jean-Pierre Serre. *Eur. Math. Soc. Newsl.*, 49:18–20, 2003. Reprinted in *Notices Amer. Math. Soc.* **51** (2004), no. 2, 210–214 and *Nieuw Arch. Wisk* (5) **5** (2004) no. 1, 38–41.