PETER SCHUSTER August 20, 2026

Complete List of Publications

A. Edited Books and Proceedings

A.1 Special Journal Issues

1. 'Trends in Constructive Mathematics' (with J. Berger, D. Pattinson, J. Zappe, eds.). Special issue, *Math. Logic Quart.* 54 (2008), no. 1, pp. 1–123

2. 'Third Workshop on Formal Topology' (with A. Bauer, T. Coquand, G. Sambin, eds.). Special issue, *Ann. Pure Appl. Logic* 163 (2012), no. 2, pp. 85–184

3. 'Fourth Workshop on Formal Topology' (with T. Coquand, M. Maietti, G. Sambin, eds.). Special issue, *Ann. Pure Appl. Logic* 167 (2016), no. 9, pp. 725–864

4. 'Proof, Truth, Computation' (with H. Leitgeb, I. Petrakis, H. Schwichtenberg, eds.). Special issue, *IfCoLog J. Logics Applications* 3 (2016), no. 4, pp. vii, 513–753

5. 'Proof, Structure and Computation 2014' (with D. Pattinson, A. Sokolova, eds.). Special issue, *J. Logic Comput.* 29 (2019), no. 4, pp. 417–575

A.2 Selected Papers Volumes

1. *Reuniting the Antipodes—Constructive and Nonstandard Views of the Continuum* (with U. Berger, H. Osswald, eds.). San Servolo, Venice, Italy, May 16–22, 1999. Symposion Proceedings. Kluwer, Dordrecht. *Synthese Library* 306 (2001), xii+316 pp.

2. *From Sets and Types to Analysis and Topology: Towards Practicable Foundations for Constructive Mathematics* (with L. Crosilla, eds.). Oxford University Press. *Oxford Logic Guides* 48 (2005), xix+376 pp.

3. *Logic, Construction, Computation* (with U. Berger, H. Diener, M. Seisenberger, eds.). Ontos, Heusenstamm. *Ontos Mathematical Logic* 3 (2012), 542 pp.

4. *Concepts of Proof in Mathematics, Philosophy, and Computer Science* (with D. Probst, eds.). Walter de Gruyter, Berlin. *Ontos Mathematical Logic* 6 (2016), x+374 pp.

5. *Proof and Computation. Digitization in Mathematics, Computer Science, and Philosophy* (with K. Mainzer, H. Schwichtenberg, eds.). World Scientific, Singapore, 2018, viii+ 300 pp.

6. *Mathesis Universalis, Computability and Proof* (with S. Centrone, S. Negri, D. Sarikaya, eds.). Springer, Cham, 2019, *Synthese Library* 412 (2019), x+373 pp.

7. *Well-Quasi Orders in Computation, Logic, Language and Reasoning. A Unifying Concept of Proof Theory, Automata Theory, Formal Languages and Descriptive Set Theory* (with M. Seisenberger, A. Weiermann, eds.). Springer, Cham, 2020, *Trends in Logic* 53 (2020), x+301 pp.

8. *Proof and Computation II. From Proof Theory and Univalent Mathematics to Program Extraction and Verification* (with K. Mainzer, H. Schwichtenberg, eds.). World Scientific, Singapore, 2021, xvi+ 408 pp.

9. *Mathematics for Computation (M4C)* (with M. Benini, O. Beyersdorff, M. Rathjen). World Scientific, Singapore, 2023, xiii+ 462 pp.

B. Books and Proceedings Contributions

1. 'Elementary choiceless constructive analysis'. In: P.G. Clote and H. Schwichtenberg, eds., *Computer Science Logic.* 14th International Workshop, CSL 2000. 9th Annual Conference of the EACSL. Fischbachau, Germany, August 21–26, 2000. Springer, Berlin and Heidelberg. *Lect. Notes Comput. Sci.* 1862 (2000) 512–526

2. 'Apartness as a relation between subsets' (with D. Bridges, L. Vîţă). In: C.S. Calude, M.J. Dinneen, S. Sburlan, eds., *Combinatorics, Computability and Logic*. 3rd International Conference, DMTCS01. Constanţa, Romania, July 2–6, 2001. Springer, London. *Discr. Math. Theoret. Comput. Sci. Ser.* (2001) 203–214

3. 'Compactness and continuity, constructively revisited' (with D. Bridges, H. Ishihara). In: J. Bradfield, ed., *Computer Science Logic.* 16th International Workshop, CSL 2002. 11th Annual Conference of the EACSL. Edinburgh, Scotland, September 22–25, 2002. Springer, Berlin and Heidelberg. *Lect. Notes Comput. Sci.* 2471 (2002) 89–102

4. 'Constructive solutions of continuous equations' (with H. Schwichtenberg). In: G. Link, ed., *One Hundred Years of Russell's Paradox. Mathematics, Logic and Philosophy.*
De Gruyter, Berlin. *De Gruyter Series in Logic and Its Applications* 6 (2004) 227–245

5. 'Do Noetherian modules have Noetherian basis functions?' (with J. Zappe). In: A. Beckmann, U. Berger, B. Löwe, J.V. Tucker, eds., *Logical Approaches to Computational Barriers.* Second Conf. on Computability in Europe, CiE 2006. Swansea, UK, June/July 2006. Springer, Berlin and Heidelberg. *Lect. Notes Comput. Sci.* 3988 (2006) 481–489

6. 'Problems as solutions'. In: S. B. Cooper, B. Löwe, A. Sorbi, eds., *Computation and Logic in the Real World.* Third Conference on Computability in Europe, CiE 2007. Siena, Italy, June 2007. Springer, Berlin and Heidelberg. *Lect. Notes Comput. Sci.* 4497 (2007) 676–684

7. 'Dini's theorem in the light of reverse mathematics' (with J. Berger). In: S. Lindström, E. Palmgren, K. Segerberg, V. Stoltenberg-Hansen, eds., *Logicism, Intuitionism, and Formalism—What has become of them?* Springer, Dordrecht. *Synthese Library* 341 (2009) 153–166

8. 'A direct proof of Wiener's theorem' (with M. Hendtlass). In: S. B. Cooper, A. Dawar, B. Löwe, eds., *How the World Computes.* Turing Centenary Conference and 8th Conference on Computability in Europe, CiE 2012, Cambridge, UK, June 2012, Proceedings. Springer, Berlin and Heidelberg. *Lect. Notes Comput. Sci.* 7318 (2012) 294–303

9. 'Induction in algebra: a first case study'.[1] In: *Proceedings of the 2012 27th Annual ACM/IEEE Symposium on Logic in Computer Science*, LICS 2012, June 2012, Dubrovnik, Croatia. IEEE Computer Society Publications (2012) 581–585

10. 'Finite methods in mathematical practice' (with L. Crosilla). In: G. Link, ed., *Formalism and Beyond. On the Nature of Mathematical Discourse.* Walter de Gruyter, Boston and Berlin. *Logos* 23 (2014) 351–410

11. 'Lindenbaum's Lemma via Open Induction' (with F. Ciraulo, D. Rinaldi).
In: R. Kahle, T. Strahm, T. Studer, eds., *Advances in Proof Theory*. Birkhäuser, Basel. *Progress in Computer Science and Applied Logic* 28 (2016) 65–77

12. 'An algorithmic approach to the existence of ideal objects in commutative algebra' (with T. Powell, F. Wiesnet). In: R. Iemhoff, M. Moortgat, R. de Queiroz, eds., *Logic, Language, Information, and Computation. WoLLIC 2019.* Proceedings. Springer, Berlin and Heidelberg. *Lect. Notes Comput. Sci.* 11541 (2019) 533–549

[1] This is an advance communication of the homonymous article (*Log. Methods Comput. Sci.* 2013).

13. 'The computational significance of Hausdorff's Maximal Chain Principle' (with D. Wessel). In: M. Anselmo, G. Della Vedova, F. Manea, A. Pauly, eds., *Beyond the Horizon of Computability.* 16th Conference on Computability in Europe, CiE 2020, Fisciano, Italy, June 29–July 3, 2020, Proceedings. Springer, Berlin and Heidelberg. *Lect. Notes Comput. Sci.* 12098 (2020) 239–250

14. 'Resolving finite indeterminacy: A definitive constructive universal prime ideal theorem' (with D. Wessel). In: *Proceedings of the 35th Annual ACM/IEEE Symposium on Logic in Computer Science* (LICS '20), July 8–11, 2020, Saarbrücken, Germany. ACM, New York, NY, USA (2020) 820–830

15. 'Modal logic for induction' (with G. Fellin, S. Negri). In: N. Olivetti, R. Verbrugge, S. Negri, G. Sandu, eds., *Advances in Modal Logic*. Advances in Modal Logic 2020, Helsinki, Finland (online), August 24–28, 2020. Proceedings. College Publications, London. *AiML* 13 (2020) 209–227

16. 'Syntax for semantics: Krull's maximal ideal theorem' (with D. Wessel). In: G. Heinzmann, G. Wolters, eds., *Paul Lorenzen – Mathematician and Logician*. Springer, Cham. *Log. Epistemol. Unity Sci.* 51 (2021) 77–102

17. 'A general Glivenko–Gödel theorem for nuclei' (with G. Fellin). In: A. Sokolova, ed., *Proceedings 37th Conference on Mathematical Foundations of Programming Semantics (MFPS 2021)*. Hybrid: Salzburg, Austria and Online, 30th August–2nd September, 2021. *Electron. Proc. Theor. Comput. Sci. (EPTCS)* 351 (2021) 51–66

18. 'Maximal ideals in countable rings, constructively' (with I. Blechschmidt). In: U. Berger, J.N.Y. Franklin, F. Manea, A. Pauly, eds., *Revolutions and Revelations in Computability.* 18th Conference on Computability in Europe, CiE 2022, Swansea, Wales, 11–15 July 2022, Proceedings. Springer, Cham. *Lect. Notes Comput. Sci.* 13359 (2022) 24–38

19. 'A constructive picture of Noetherian conditions and well quasi-orders' (with G. Buriola, I. Blechschmidt). In: G. Della Vedova, B. Dundua, S. Lempp and F. Manea, eds., *Unity of Logic and Computation.* 19th Conference on Computability in Europe, CiE 2023, Batumi, Georgia, 24–28 July 2023, Proceedings. Springer, Cham. *Lect. Notes Comput. Sci.* 13967 (2023) 50–62

20. 'A general constructive form of Higman's lemma' (with S. Berardi, G. Buriola). In: A. Murano and A. Silva, eds., *Computer Science Logic.* 32nd EACSL Annual Conference on Computer Science Logic 2024 (CSL'24). Naples, Italy, February 19–23, 2024. Schloss Dagstuhl—Leibniz-Zentrum für Informatik, *Leibniz International Proceedings in Informatics (LIPIcs)* 288 (2024) 16:1–16:17

21. 'Nuclear shifts for conservation' (with G. Fellin, S. Negri). In: V. Brattka, H. Fernau and L. Galeotti, eds., *Timeless Machines: Computability Across Eras.* 22nd Conference on Computability in Europe, CiE 2026, Trier, Germany, July 27â31, 2026, Proceedings. Springer, Cham. *Lect. Notes Comput. Sci.* 16674 (2026) 272–288

C. Commissioned Articles in Journals

1. 'Sequential compactness in constructive analysis' (with D. Bridges, H. Ishihara). *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* 208 (1999) 159–163

D. Peer–Reviewed Articles in Journals

1. 'Identifying variable points on a smooth curve'. *Manuscripta Math.* 94 (1997) 195–210

2. 'The moduli of substructures of a compact complex space'. *Proc. Amer. Math. Soc.* 126 (1998) 1983–1987

3. 'A very weak Nullstellensatz over Heyting fields'. *Indagationes Math. (N.S.)* 10 (1999) 117–122

4. ‘Linear independence without choice’ (with D. Bridges, F. Richman).
Ann. Pure Appl. Logic 101 (2000) 95–102

5. ‘A constructive look at generalised Cauchy reals’.
Math. Logic Quart. 46 (2000) 125–134

6. ‘A weak countable choice principle’ (with D. Bridges, F. Richman).
Proc. Amer. Math. Soc. 128 (2000) 2749–2752

7. ‘Adjoints, absolute values and polar decompositions’ (with D. Bridges, F. Richman).
J. Operator Theory 44 (2000) 243–254

8. ‘Too simple solutions of hard problems’.
Nordic J. Philosophical Logic 6 (2001) 138–146

9. ‘A constructive uniform continuity theorem’ (with H. Ishihara).
Quart. J. Math. 53 (2002) 185–193

10. ‘Trace–class operators’ (with D. Bridges, F. Richman).
Houston J. Math. 28 (2002) 565–583

11. ‘Apartness, topology, and uniformity: a constructive view’ (with D. Bridges, L. Vîţă).
Math. Logic Quart. 48 (2002) Suppl. 1, 16–28

12. ‘Real numbers as black boxes’.
New Zealand J. Math. 31 (2002) 189–202

13. ‘Strong versus uniform continuity: a constructive round’ (with D. Bridges, L. Vîţă).
Quaestiones Math. 26 (2003) 171–190

14. ‘Unique existence, approximate solutions, and countable choice’.
Theoret. Comput. Sci. 305 (2003) 433–455

15. ‘Countable choice as a questionable uniformity principle’.
Philosophia Math. (3) 12 (2004) 106–134

16. ‘The polydisk Nullstellensatz’ (with D. Bridges, R. Mines, F. Richman).
Proc. Amer. Math. Soc. 132 (2004) 2133–2140

17. ‘Compactness under constructive scrutiny’ (with H. Ishihara).
Math. Logic Quart. 50 (2004) 540–550

18. ‘A nilregular element property’ (with T. Coquand, H. Lombardi).
Arch. Math. (Basel) 85 (2005) 49–54

19. ‘Products in the category of apartness spaces’ (with D. Bridges, H. Ishihara, L. Vîţă).
Cah. Topol. Géom. Différ. Catég. 46 (2005), 139–153

20. ‘On constructing completions’ (with L. Crosilla, H. Ishihara).
J. Symb. Log. 70 (2005) 969–978

21. ‘Strong continuity implies uniform sequential continuity’ (with D. Bridges, H. Ishihara, L. Vîţă).
Arch. Math. Logic 44 (2005) 887–895

22. ‘What is continuity, constructively?’
J. UCS 11 (2005) 2076–2085

23. ‘Logisch zwingende Teilprinzipien von ZFC’.
Logique et Analyse (N.S.) 48 (2005) 301–310

24. ‘Formal Zariski topology: positivity and points’.
Ann. Pure Appl. Logic 137 (2006) 317–359

25. ‘The fan theorem and unique existence of maxima’ (with J. Berger, D. Bridges).
J. Symb. Log. 71 (2006) 713–720

26. ‘Quasi-apartness and neighbourhood spaces’ (with H. Ishihara, R. Mines, L. Vîţă).
Ann. Pure Appl. Logic 141 (2006) 296–306

27. ‘Apartness and formal topology’ (with E. Palmgren).
New Zealand J. Math. 35 (2006) 77-84

28. ‘Finitely generated Banach algebras and local Nullstellensätze: a constructive treatment’ (with D. Bridges, R. Havea). *Publ. Math. Debrecen* 69/1–2 (2006) 171–184

29. ‘Classifying Dini’s theorem’ (with J. Berger).
Notre Dame J. Formal Logic 47 (2006) 253–262

30. ‘A simple constructive proof of Kronecker’s density theorem’ (with D. Bridges).
Elem. Math. 61 (2006) 152–154

31. ‘Unique solutions’. *Math. Logic Quart.* 52 (2006) 534–539. Corrigendum: 53 (2007) 214

32. ‘Binary refinement implies discrete exponentiation’ (with P. Aczel, L. Crosilla, H. Ishihara, E. Palmgren). *Studia Logica* 84 (2006) 361–368

33. ‘Ideals in constructive Banach algebra theory’ (with D. Bridges, R. Havea).
J. Complexity 22 (2006) 729–737

34. ‘Almost locatedness in uniform spaces’ (with D. Bridges, H. Ishihara, R. Mines, F. Richman, L. Vîţă).
Czechoslovak Math. J. 57 (2007) 1–12

35. ‘Spatiality for formal topologies’ (with N. Gambino).
Math. Structures Comput. Sci. 17 (2007) 65–80

36. ‘The shrinking principle and the axiom of choice’ (with B. Banaschewski).
Monatshefte Math. 151 (2007) 263–270

37. ‘The projective spectrum as a distributive lattice’ (with T. Coquand, H. Lombardi).
Cah. Topol. Géom. Différ. Catég. 48 (2007) 220–228

38. ‘Apartness, compactness, and nearness’ (with D. Bridges, H. Ishihara, L. Vîţă).
Theoret. Comput. Sci. 405 (2008) 3–10

39. ‘The Zariski spectrum as a formal geometry’.
Theoret. Comput. Sci. 405 (2008) 101–115

40. ‘A continuity principle, a version of Baire’s theorem, and a boundedness principle’ (with H. Ishihara). *J. Symb. Log.* 73 (2008) 1354–1360

41. ‘Über das Kripke-Schema und abzählbare Teilmengen’ (with J. Zappe).
Logique et Analyse (N.S.) 51 (2008) 317–329

42. ‘Spectral schemes as ringed lattices’ (with T. Coquand, H. Lombardi).
Ann. Math. Artif. Intell. 56 (2009) 339–360

43. ‘Problems, solutions, and completions’.
J. Logic Algebr. Program. 79 (2010) 84–91

44. ‘Kronecker’s density theorem and irrational numbers in constructive reverse mathematics’ (with H. Ishihara). *Math. Semesterber.* 57 (2010) 57–72

45. 'On choice principles and fan theorems' (with H. Diener).
J. UCS 16 (2010) 2556–2562

46. 'On the contrapositive of countable choice' (with H. Ishihara).
Arch. Math. Logic 50 (2011) 137–143

47. 'Noetherian orders' (with H. Perdry).
Math. Structures Comput. Sci. 21 (2011) 111–124

48. 'Minima and best approximations in constructive analysis' (with M. Hendtlass).
J. Log. Anal. 3 (2011), paper 5, 17 pp.

49. 'Uniqueness, continuity, and existence of implicit functions in constructive analysis'
(with H. Diener). *LMS J. Comput. Math.* 14 (2011) 127–136

50. 'Unique paths as formal points' (with T. Coquand).
J. Log. Anal. 3 (2011), paper 6, 9 pp.

51. 'A predicative completion of a uniform space' (with J. Berger, H. Ishihara, E. Palmgren).
Ann. Pure Appl. Logic 163 (2012) 975–980

52. 'The Gröbner ring conjecture in one variable' (with H. Lombardi, I. Yengui).
Math. Z. 270 (2012) 1181–1185

53. 'The weak König lemma, Brouwer's fan theorem, de Morgan's law, and dependent choice'
(with J. Berger, H. Ishihara). *Rep. Math. Logic* 47 (2012) 63–86

54. 'The Kripke schema in metric topology' (with R. Lubarsky, F. Richman).
Math. Logic Quart. 58 (2012) 498–501

55. 'A generalised cut characterisation of the fullness axiom in CZF' (with L. Crosilla, E. Palmgren).
Log. J. IGPL 21 (2013) 63–76

56. 'Are there enough injective sets?' (with P. Aczel, B. van den Berg, J. Granström).
Studia Logica 101 (2013) 467–482

57. 'Induction in algebra: a first case study'.[2] *Log. Methods Comput. Sci.* 9 (3:20) (2013)

58. 'Approximating Beppo Levi's principio d'approssimazione' (with R. Bruni).
Bull. Symb. Log. 20 (2014) 141–169

59. 'Constructing Gröbner bases for Noetherian rings' (with H. Perdry).
Math. Structures Comput. Sci. 24 (2) (2014), article no. e240206, 29 pp.

60. 'The basic Zariski topology' (with D. Rinaldi, G. Sambin).
Confluentes Math. 7 (1) (2015) 55–81

61. 'A universal Krull–Lindenbaum theorem' (with D. Rinaldi).
J. Pure Appl. Algebra 220 (9) (2016) 3207–3232

62. 'Eliminating disjunctions by disjunction elimination' (with D. Rinaldi, D. Wessel).[3]
Bull. Symb. Log. 23 (2) (2017) 181–200

63. 'Eliminating disjunctions by disjunction elimination' (with D. Rinaldi, D. Wessel).[4]
Indag. Math. (N.S.) 29 (1) (2018) 226–259

64. 'Suzumura consistency, an alternative approach' (with D. Wessel).
J. Appl. Logic–IfCoLog J. Logic Appl. 5 (1) (2018) 263–286

[2] This is the full version of the homonymous conference paper (*Logic in Computer Science* – LICS – 2012).
[3] This is an advance communication of the homonymous article (*Indag. Math. (N.S.)* 2017).
[4] This is the full version of the homonymous communication (*Bull. Symbolic Logic* 2017).

65. ‘A general extension theorem for directed-complete partial orders’ (with D. Wessel).
Rep. Math. Logic 53 (2018) 79–96

66. ‘Some forms of excluded middle for linear orders’ (with D. Wessel).
Math. Logic Quart. 65 (2019) 105–107

67. ‘Der Satz von Hahn–Banach per Disjunktionselimination’
(with K. Schlagbauer, D. Wessel).
Confluentes Math. 11 (1) (2019) 79–93

68. ‘On Scott’s semantics for many-valued logic’ (with S. Niki).
J. Logic Comput. 30 (6) (2020) 1291–1302

69. ‘The Jacobson radical of a propositional theory’ (with G. Fellin, D. Wessel).
Bull. Symb. Log. 28 (2022) 163–181

70. ‘Dynamic evaluation of integrity and the computational content of Krull’s lemma’
(with D. Wessel, I. Yengui).
J. Pure Appl. Algebra, 226 (1) (2022), article no. 106794, 7 pp.

71. ‘The Jacobson radical for an inconsistency predicate’ (with D. Wessel).
Computability 11 (2022) 147–162

72. ‘A universal algorithm for Krull’s theorem’ (with T. Powell, F. Wiesnet).
Inform. and Comput. 287 (2022), article no. 104761, 21 pp.

73. ‘Radical theory of Scott-open filters’ (with D. Wessel).
Theoret. Comput. Sci. 945 (2023), article no. 113677, 19 pp.

74. ‘Reifying dynamical algebra: Maximal ideals in countable rings, constructively’ (w/ I. Blechschmidt).
Computability 13 (2024) 263–297

75. ‘Conservation as translation’ (with G. Fellin).
Rev. Symb. Log. 18 (1) (2025) 316–348

76. ‘An iterative constructive Hilbert basis theorem’ (with I. Yengui).
J. Algebra 676 (2025) 56–68

77. ‘Well quasi-orders, better quasi-orders, and monomial ideals’ (with G. Buriola).
Boll. Unione Mat. Ital. 19 (2026) 847–867