

## Schriftenverzeichnis

Georg Schumacher

1. Über ebene, regulär faktorisierte und einfache holomorphe Abbildungen, *manuscr. math.* **15**, 33–44 (1976)
2. Ein topologisches Reduziertheitskriterium für holomorphe Abbildungen, *Math. Ann.* **220**, 97–103 (1976).
3. Analytische Erweiterungen von Produkträumen, *Math. Z.* **162**, 189–199 (1978) joint with R. Axelsson.
4. Beispiele nicht reduzierter Strukturen auf komplexen Räumen, *Math. Ann.* **238**, 33–38 (1978).
5. Holomorphic maps of generalized Iwasawa manifolds, *manuscripta math.* **30**, 107–117 (1979) joint with A. Huckleberry.
6. Variation der globalen Ext in Deformationen kompakter komplexer Räume, *Math. Ann.* **250**, 135–155 (1980) joint with C. Banica and M. Putinar.
7. Eine Künneth-Formel für die Tangentialkohomologie kompakter komplexer Räume, *Journal f. reine ang. Math.* **321**, 138–149 (1981) joint with R. Axelsson.
8. Deformationen von Keimen eigentlicher, holomorpher Abbildungen, *manuscr. math.* **39**, 39–47 (1982).
9. Eine Künneth-Formel für relative Ext-Garben und deformationstheoretische Anwendungen, *Habilitationsschrift*, Münster, 1981, *Schriftenreihe des math. Inst. Münster*, Heft 29.
10. Deformationen von Faserungen, *Arch. Math.* **41**, 295–307 (1982).
11. Eine Anwendung des Satzes von Calabi-Yau auf Familien kompakter komplexer Mannigfaltigkeiten, *Inventiones math.* **71**, 295–307 (1982).
12. Construction of the coarse moduli space of compact polarized manifolds mit  $c_1 = 0$ , *Math. Ann.* **264**, 81–90 (1983).
13. Moduli of polarized Kähler manifolds, *Math. Ann.* **269**, 137–144 (1984).
14. On the geometry of moduli spaces, *manuscr. math.* **50**, 229–267 (1985).

15. Moduli of polarized Kähler manifolds, Proc. Nancy, 1985.
16. Harmonic maps of the moduli space of compact Riemann surfaces, Math. Ann. **275**, 455–466 (1985).
17. The moduli space of Hermite-Einstein-Bundles on a compact Kähler manifold, Proc. Japan Acad. **63**, Ser **A**, 69–72 (1987) joint with A. Fujiki.
18. The moduli space of Kähler structures on a real compact symplectic manifold, Publ. RIMS, Kyoto, **24**, 141–168 (1988) joint with A. Fujiki.
19. The moduli space of compact extremal Kähler manifolds and generalized Petersson-Weil metrics, Publ. RIMS, Kyoto Univ. **26**, 101–183 (1990) joint with A. Fujiki.
20. Branched coverings and hyperbolicity, Math. Ann. **286**, 537–548 (1990) joint with K. Takegoshi.
21. A geometric algebraicity property for moduli spaces of compact Kähler manifolds mit  $h^{0,2} = 1$ , Math. Z. **204**, 153–155 (1990) joint with F. Campana.
22. The theory of Teichmüller spaces — a view towards moduli spaces of Kähler manifolds, Encyclopedia of Mathematical Sciences, vol. **69**, 251–310 (1990) Barth, W., Narasimhan, R. eds. Russian translation in Itogi Nauki Tekh., Ser. Sovrem. Probl. Mat., Fundam. Napravleniya **69**, 278–345
23. On moduli spaces of Kähler manifolds, the generalized Petersson-Weil Metric and positive line bundles, Rev. Roumaine Pures Appl. **36**, 291–308 (1991)
24. A remark on the automorphisms of the moduli space  $\mathcal{M}_p$  of compact Riemann surfaces, Arch. Math. **59**, 396–397 (1992)(1991)
25. On the Petersson-Weil metric for the moduli space of Hermite-Einstein bundles and its curvature, Math. Ann. **293**, 101–107 (1992) joint with M. Toma.
26. The curvature of the Petersson-Weil metric on the moduli space of Kähler-Einstein manifolds, in "Complex Analysis", Trento 1993 (Plenum Publ.)

27. The curvature of the Petersson-Weil Metric for moduli of Kähler-Einstein Manifolds and Hermite-Einstein bundles, preprint.
28. Moduli of Kähler manifolds equipped with Hermite-Einstein vector bundles, *Rev. Roumaine Math. Pur. Appl.* **28**, 703–719 (Band zum Gedenken an Constantin Banica) joint with M. Toma.
29. On a relative Kobayashi-Hitchin correspondence, *Intl. J. Math.* **4**, 253–288 (1993) joint with M. Lübke and C. Okonek.
30. Hyperbolicity of complements of three quadrics in the projective plane, *Amer. J. Math.* **117** (1995), 573–599 joint with G. Dethloff and P.M. Wong.
31. Über die Entwicklung der Komplexen Analysis in Deutschland, *Jahresbericht der Deutschen Mathematiker Vereinigung* **98**, 41–133 (1996).
32. On the hyperbolicity of complements of plane curves: The general two and three component cases, *Duke Math. J.* **78** (1995), 193–212 joint with G. Dethloff and P.M. Wong.
33. Asymptotics of Kähler-Einstein metrics on quasi-projective manifolds and an extension theorem on holomorphic maps, *Math. Annalen* **311**, 631–645 (1998).
34. Moduli of framed manifolds, *Inventiones math.* **134**, 229–249 (1998).
35. Asymptotics of Kähler-Einstein Metrics, Negativity of the curvature tensor close to infinity, *Documenta Math.* **7** (2002) 653–658.
36. Non-reduced moduli spaces, *Global Complex Geometry, Proceedings, Hayama 1998*
37. On the diameter of plane curves, *Compositio Math.* **119**, 331–334 (1999) joint with S.T. Feng.
38. A generalized Petersson-Weil metric on the Douady space of embedded manifolds, memorial vol. for M. Schneider 1999 joint with I. Biswas.
39. On a characterization of finite vector bundles as flat vector bundles with finite monodromy group, *Proc. Amer. Math. Soc.* **128** (2000) 3661–3669 joint with I. Biswas and Y. Holla.
40. Determinant bundle, Quillen metric, and Petersson-Weil form on moduli spaces, *GAFAG, Geometric and Functional Analysis* **9**, 226–256 (1999) joint with I. Biswas.

41. Analytic theory of moduli spaces, Center For Theoretical Sciences: Ntl. Tsing-Hua University, Taiwan 35 p. and Preprint series Fachbereich Mathematik, Universität Marburg 2001.
42. Estimates of Weil-Petersson volumes via effective divisors *Commun. Math. Phys.* **222** (2001) 1, 1–7. joint with S. Trapani.
43. Asymptotics of Kähler-Einstein Metrics - Negativity of the holomorphic sectional curvature close to infinity, *Documenta Math.* **7** (2002) 653–658.
44. Quasi-projectivity of moduli spaces of polarized varieties, *Ann. Math.* **159** (2004) 597–639 joint with H. Tsuji.
45. Variation of cone metrics on Riemann surfaces, *J. Math. Anal. Appl.* **311** (2005) 218–230 joint with St. Trapani.
46. Moduli as algebraic spaces, Complex analysis in several variables—Memorial Conference of Kiyoshi Oka’s Centennial Birthday, 283–288, *Adv. Stud. Pure Math.*, **42**, Math. Soc. Japan, Tokyo, 2004.
47. Kähler Geometry of Douady Spaces, *Manuscr. math.* **121** (2006) 277–291 joint with R. Axelsson.
48. On the stability of the tangent bundle of a hypersurface in a Fano variety of Picard number one, *Kyoto Math. J.* **45** (2005) 851–860 joint with I. Biswas.
49. Kähler structure on the moduli spaces of principal G-bundles, *Differential Geometry and its Applications* **25** (2007) 136–146 joint with I. Biswas.
50. Numerically effectiveness and principal bundles on Kähler manifolds, *Ann. Glob. Anal. Geom.* (2008) **34**, 153–165; joint with I. Biswas.
51. Geometry of the moduli space of Higgs bundles, *math.AG/0605589*, *Comm. Analysis Geometry* **14** (2006) 765–793 joint with I. Biswas.
52. Coupled vortex equations and Moduli: Deformation theoretic Approach and Kaehler Geometry; joint with I. Biswas, arXiv:0808.3260. *Math. Ann.* **343** (2009) 825–851.
53. Kähler geometry of moduli spaces, in Catanese, Fabrizio (ed.); Esnault, Hélène. (ed.); Huckleberry, Alan T. (ed.); Hulek, Klaus (ed.); Peternell, Thomas (ed.) *Global aspects of complex geometry*. Berlin: Springer. viii, 506 p. (2006).

54. Yang-Mills equation for stable Higgs sheaves, preprint, arXiv:0803.4435, Int. J. Math. **20**, 541–556 (2009) joint with I. Biswas.
55. Tangent bundle of hypersurfaces in  $G/P$ , J. K-Theory **4**, 91–100 (2009) (form. K-Theory); joint with I. Biswas.
56. Weil-Petersson geometry for families of hyperbolic conical Riemann Surfaces; Mich. J. Math. **60**, 3–33 (2011) arXiv:0809.0058, joint with St. Trapani.
57. Geometric Approach to the Weil-Petersson Symplectic Form, Commentarii Math. Helv. **85**, (2010) 243–257, joint with R. Axelsson. arXiv:0808.3741
58. Positivity of relative canonical bundles of families of canonically polarized manifolds, arXiv:0808.3259 [math.CV] 28. Apr 2009
59. Variation of geodesic length functions over Teichmüller space; joint with Reynir Axelsson. Preprint, arXiv:1006.2966, Ann. Acad. Sci. Fenn. Math. **37**, 91–106 (2012)
60. Vector bundles on Sasakian manifolds, joint with I. Biswas, arXiv: 0809.3892, Adv. Theor. Math. Phys. **14** (2010) 541–561.
61. Multiplier ideal sheaves in algebraic and complex geometry. Abstracts from the workshop held April 12th–April 18th, 2009. Oberwolfach Rep. **6**, 1101–1156 (2009) joint with Kebekus, Stefan (ed.); Paun, Mihai (ed.); Siu, Yum-Tong (ed.)
62. Curvature of  $R^{n-p}f_*\Omega_{X/S}^p(\mathcal{K}_{X/S}^{\otimes m})$  and applications, 30 p., arXiv: 1002.4858
63. Deligne pairing and determinant bundle. Joint with Indranil Biswas, and Lin Weng. Preprint arXiv:1106.0255, ERA Math. Sci. **18**, 91–96 (2011).
64. Positivity of relative canonical bundles and applications, 56 p., Inventiones Math. ("online first", 13 January 2012) DOI: 10.1007/s00222-012-0374-7. Invent. Math. **190**, 1–56 (2012).
65. Deligne pairing and Quillen metric, preprint. Joint with Indranil Biswas. Int. J. Math. **25** Article ID 1450122, 13 p. (2014).
66. Curvature properties for moduli of canonically polarized manifolds – an analogy to moduli of Calabi-Yau manifolds. C. R. Acad. Sci. Paris, Ser. I **352** (2014) 835–840

67. Kähler structure on Hurwitz spaces. Joint with Reynir Axelsson and Indranil Biswas. *Manuscr. Math.* **147**, 63–79 (2015)
68. Curvature of higher direct image sheaves. Joint with Thomas Geiger. In honour of Professor Yujiro Kawamata’s sixtieth birthday. *Advanced Studies in Pure Mathematics* **74**, 171–184 (2017). .
69. The Weil-Petersson current for moduli of vector bundles and applications to orbifolds. Joint with Indranil Biswas. arXiv:1509.00304. *Ann. Fac. Sci. Toulouse Math.* Vol. XXV, no 4, 2016 pp. 895-917
70. An extension theorem for Hermitian line bundles. Conf. Hyderabad 2015, arXiv:1507.06195, *Analytic and Algebraic Geometry*, 225-237, Hindustan Book Agency, New Delhi, 2017.
71. Moduli spaces of quiver bundles. Joint with Indranil Biswas. *Journal of Geometry and Physics*, **118** (2017) 51–66.
72. A criterion for a degree-one holomorphic map to be a biholomorphism. Joint with Gautam Bharali, and Indranil Biswas. *Complex Variables and Elliptic Equations* (2017) , DOI: 10.1080/17476933.2016.1252342, arXiv:1610.06286
73. Line bundles and flat connections. Joint with Indranil Biswas. *Proc. Indian Acad. Sci. (Math. Sci.)* (2017) DOI 10.1007/s12044-017-0344-5
74. Positivity of direct images of fiberwise Ricci-flat metrics on Calabi-Yau fibrations. Joint with Matthias Braun, and Young-Jun Choi, arXiv:1508.00323, *Transactions of the AMS*, doi.org/10.1090/tran/8305.
75. Line bundles and flat connections. Joint with Indranil Biswas. *Proc. Indian Acad. Sci., Math. Sci.* 127 (2017).
76. Restricted volumes and non-Kähler locus on Moishezon manifolds. Joint with Mihai Paun, in preparation, prepr.
77.  $L^2$ -Cohomology for Affine Spaces and an Application to Monads. Joint with Nicholas Buchdahl, *Rocky Mt. J. Math.* 50, No. 5, 1599-1616 (2020).
78. Deformation theory of holomorphic Cartan geometries. Joint with Indranil Biswas and Sorin Dumitrescu, arXiv:1812.05940, *Indag. Math., New Ser.* 31, No. 3, 512-524 (2020).

79. Application of Cheeger-Gromov theory to the  $l^2$ -cohomology of harmonic Higgs bundles over covering of finite volume complete manifolds. Joint with Pascal Dingoyan arXiv:1810.03863, submitted.
80. Symplectic reduction of Sasakian manifolds. Joint with Indranil Biswas. arXiv:1804.03685. Proc. Indian Acad. Sci. (Math.Sci.) **129-62** (2019).
81. Kähler forms for families of Calabi-Yau manifolds. Joint with Matthias Braun, and Young-Jun Choi. Publications of the Research Institute for Mathematical Sciences, Kyoto (PRIMS), arXiv:1702.07886. Publ. RIMS Kyoto Univ. 56 (2020), 1–13.
82. Application of Cheeger-Gromov theory to the  $l^2$ -cohomology of harmonic Higgs bundles over covering of finite volume complete manifolds. Joint with Pascal Dingoyan arXiv:1810.03863
83. Asymptotics of Hermite-Einstein metrics on stable vector bundles over logarithmic pairs, preprint 2019. Joint with Indranil Biswas and Philipp Naumann.
84. Moduli of canonically polarized manifolds, higher order Kodaira-Spencer maps, and an analogy to Calabi-Yau manifolds, arXiv:1702.07628, in Uniformization, Riemann-Hilbert Correspondence, Calabi-Yau Manifolds, and Picard-Fuchs Equations. ALM**42** (2018), pp. 371-401.
85. An extension theorem for Hermitian line bundles. Analytic and Algebraic Geometry, 225-237, Hindustan Book Agency, New Delhi, 2017, arXiv:1507.06195.
86. Extension of the curvature form of the relative canonical line bundle on families of Calabi-Yau manifolds and applications. Joint with Young-Jun Choi. arXiv:1804.00895, Ann. Inst. Fourier 71, No. 1, 393-406 (2021).
87. Hyperbolicity for moduli spaces of framed manifolds joint with Philipp Naumann, preprint, 2018.
88. Curvature of direct image and its application. preprint 2020. Joint with Young-Jun Choi.
89. Branched holomorphic Cartan geometry on Sasakian manifolds. Joint with Indranil Biswas and Sorin Dumitrescu, arXiv:1812.02533, to appear in Advances of Theor. and Math. Physics.

90. Kähler geometry of Douady spaces. Joint with Reynir Axelsson, arXiv:1812.07623, Math. Nachr. **294**, 638–656 (2021).
91. Kähler structure of moduli spaces of instantons. Joint with Nicholas Buchdahl. Preprint 26 p, 2018.
92. Polystability and the Hitchin-Kobayashi correspondence. Joint with Nicholas Buchdahl. arXiv:2002.03548
93. An Analytic Application of Geometric Invariant Theory. Joint with Nicholas Buchdahl. arXiv:2008.04625, J. Geom. Phys. **165** (2021).

**Books:**

94. Remmert, Reinhold; Schumacher, Georg: Funktionentheorie. 2., 3rd new revised ed. Springer-Lehrbuch. Berlin: Springer. xvii, 383 p. (2013)
95. Remmert, Reinhold; Schumacher, Georg: Funktionentheorie 1. 5., neu bearb. Aufl. Berlin: Springer. xx, 402 p. (2013)
96. Analytic Theory of Moduli Spaces (in preparation)

Juli 2021