

**List of publications****Diplom:**

Die zahme Fundamentalgruppe einer ebenen Quartic mit drei Spitzen, Heidelberg 1972,  
Advisor: Prof. H. Popp

**Dissertation:**

Invarianten der degenerierten Fasern in lokalen Familien von Kurven, Mannheim 1975,  
Advisor: Prof. H. Popp

**Articles:**

1. Invarianten der degenerierten Fasern in lokalen Familien von Kurven. Journ. reine angew. Math. **293/294** (1977) 284 - 308  
(Résumé of the thesis)
2. Rational singularities of higher dimensional schemes. Proc. AMS **63** (1977) 6 - 8
3. Canonical divisors and the additivity of the Kodaira dimension for morphisms of relative dimension one. Compositio Math. **35** (1977) 197 - 223
4. Klassifikationstheorie algebraischer Varietäten der Dimension drei, Compositio math. **41** (1980) 361 - 400  
(Habilitation, Mannheim, 1980)
5. (with Y. Kawamata) On a characterization of an abelian variety in the classification theory of algebraic varieties. Compositio math. **41** (1980) 355 - 359
6. Die Additivität der Kodaira Dimension für projektive Faserräume über Varietäten des allgemeinen Typs. Journ. reine angew. Math. **330** (1982) 132 - 142
7. Vanishing theorems. Journ. reine angew. Math. **335** (1982) 1 - 8
8. (with H. Esnault) Revêtement cycliques. Algebraic Threefolds, Proc. Varenna 1981. Springer Lect. Notes in Math. **947**, 241 - 250
9. (with H. Esnault) Sur une minoration du degré d'hypersurfaces s'annulant en certains points. Math. Ann. **263** (1983) 75 - 86
10. Weak positivity and the additivity of the Kodaira dimension for certain fibre spaces. Proc. Algebraic Varieties and Analytic Varieties, Tokyo 1981. Adv. Studies in Math. **1**, Kinokunya-North-Holland Publ. 1983, 329 - 353
11. Weak positivity and the additivity of the Kodaira dimension II: the local Torelli map. Proc. Classification of Algebraic and Analytic Manifolds, Katata 1982. Progress in Math. **39**, Birkhäuser 1983, 567 - 589
12. (with H. Esnault) Dyson's lemma for polynomials in several variables (and the theorem of Roth). Inventiones math. **78** (1984) 445 - 490

13. (with H. Esnault) Two dimensional quotient singularities deform to quotient singularities. *Math. Ann* **271** (1985) 439 - 449
14. (with H. Esnault) Revêtements cycliques II, *Proc. Algebraic Geometry, La Rabida 1984*, Hermann, *Travaux en cours* **23** (1987) 81 - 96
15. (with H. Esnault) Logarithmic De Rham complexes and vanishing theorems. *Inventiones math.* **86** (1986) 161 - 194
16. (with H. Esnault) Deligne-Beilinson cohomology. in: *Beilinson's Conjectures on Special Values of L-Functions* ( Ed.: Rapoport, Schappacher, Schneider ). *Perspectives in Math.* **4**, Academic Press (1988) 43 - 91
17. (with H. Esnault) A remark on a non-vanishing theorem of P. Deligne and G.T. Mostow. *Journ. reine angew. Math.* **381** (1987) 211 - 213
18. (with H. Esnault) Vanishing and non-vanishing theorems. *Proc. Hodge Theory, Luminy 1987* (Ed.: Barlet, Elzein, Esnault, Verdier, Viehweg). *Astérisque* **179 - 180** (1989) 97 - 112
19. Weak positivity and the stability of certain Hilbert points. *Inventiones math.* **96** (1989) 639 - 667
20. (with H. Esnault) Effective bounds for semipositive sheaves and the height of points on curves over complexe function fields. *Compositio math.* **76** (1990) 69 - 85
21. Weak positivity and the stability of certain Hilbert points II. *Inventiones math.* **101** (1990) 191 - 223
22. Weak positivity and the stability of certain Hilbert points III. *Inventiones math.* **101** (1990) 521 - 543
23. Quasi-projective quotients by compact equivalence relations. *Math. Ann.* **289**, (1991) 297 - 314
24. (with H. Esnault) Ample sheaves on moduli schemes. "Proceedings of the Conference in Algebraic and Analytic Geometry", Tokyo, 1990, ICM-90 Satellite Conference Proceedings, Springer , 53-81
25. (with H. Esnault and J. Seade) Characteristic divisors on complex manifolds. *Journ. reine angew. Math.* **424** (1992) 17-30
26. (with H. Esnault and V. Schechtman) Cohomology of local systems on the complement of hyperplanes. *Invent. math.* **109** (1992) 557-561  
Erratum: *Invent. math.* **112** (1993) 447
27. (with H. Esnault and B. Kahn) Coverings with odd ramification and Stiefel-Whitney classes. *Journ. f. reine und ang. Math.* **441** (1993) 145-188
28. (with H. Esnault) Higher Kodaira-Spencer classes. *Math. Ann.* **299** (1994) 491-527
29. (with H. Esnault and V. Srinivas) Decomposability of Chow groups implies decomposability of cohomology. "Journées de Géométrie Algébrique d'Orsay, Juillet 1992", *Astérisque* **218** (1993) 227 - 242

30. (with H. Esnault and M. Levine) Chow groups on projective varieties of very small degree. *Duke Math. J.* **87** (1997), 29-58
31. (with H. Esnault, B. Kahn and M. Levine) The Arason invariant and mod 2 algebraic cycles. *Journal of the American Mathematical Society* **11** (1998), 73-118
32. (with H. Esnault and V. Srinivas) The universal regular quotient of the Chow group of 0-cycles on a singular projective variety. *Inventiones math.* **135** (1999) 595-664
33. (with H. Esnault) Germs of de Rham cohomology classes which vanish at the generic point. *CRAS, Paris* **326** (1998), 857-862
34. (with Sheng-Li Tan) A note on Cayley-Bacharach property for vector bundles. In: *Complex Analysis and Algebraic Geometry (2000)* 361 - 373, Walter de Gruyter, Berlin-New York.
35. (with H. Esnault) Semistable bundles on curves and irreducible representations of the fundamental group. *Contemporary Mathematics* **241** (1999) 129 - 138
36. (with E. Bedulev) On the Shafarevich conjecture for surfaces of general type over function fields. *Invent. Math.* **139** (2000) 603 - 615
37. (with K. Oguiso) On the isotriviality of families of elliptic surfaces. *J. Alg. Geom.* **10** (2001) 569 - 598
38. (with K. Zuo) On the isotriviality of families of projective manifolds over curves. *J. Alg. Geom.* **10** (2001) 781-799
39. (with K. Zuo) On the Brody hyperbolicity of moduli spaces for canonically polarized manifolds. *Duke Math. Journal* **118** (2003) 103-150
40. (with K. Zuo) Base spaces of non-isotrivial families of smooth minimal models. In *Complex Geometry (Grauert Festschrift)* Springer Verlag 2002, 279-328
41. (with H. Esnault) Chern classes of Gauß-Manin bundles of weight 1 vanish. *K-theory* **26** (2002) 287-305
42. (with K. Zuo) Families of abelian varieties over curves with maximal Higgs field. *J. Diff. Geom.* **66** (2004) 233-287.  
(an earlier version of the first part was: Families of abelian varieties over curves with maximal Higgs field. preprint 2002, 14 pages)
43. (with K. Zuo) Discreteness of minimal models of Kodaira dimension zero and subvarieties of moduli stacks. *Survey in differential geometry* **VIII** 337-356, Edited by S.-T. Yau, International Press, 2004
44. (with M. Chen) Bicanonical and adjoint linear systems on surfaces of general type. *Pacific J. of Math.* **219** (2005) 83-96
45. (with K. Zuo) Families over curves with a strictly maximal Higgs field. *Asian J. of Math.* **7** (2003) 575 - 598
46. (with J.-X. Cai) Irregular manifolds whose canonical system is composed with a pencil. *Asian J. of Math.* **8** (2004) 27-38

47. (with K. Zuo) Complex multiplication, Griffiths-Yukawa couplings, and rigidity for families of hypersurfaces. *J. Alg. Geom.* **14** (2005) 481-528.
48. (with K. Zuo) Geometry and arithmetic of non-rigid families of Calabi-Yau 3-folds; questions and examples. *AMS/IP Studies in Advanced Mathematics (Mirror Symmetry V)*. **38** (2006) 351-360.
49. (with K. Zuo) Arakelov inequalities and the uniformization of certain rigid Shimura varieties. *J. Diff. Geom.* **77** (2007) 291-352
50. (with K. Zuo) Numerical bounds for semi-stable families of curves or of certain higher dimensional manifolds. *J. Alg. Geom.* **15** (2006) 771-791
51. (with K. Zuo) Special subvarieties of  $\mathcal{A}_g$ . *Proc. of the ICCM 2004. AMS Studies in Advanced Mathematics*. **42** (2008) 111-124.
52. (with M. Möller and K. Zuo) Special families of curves, of Abelian varieties, and of certain minimal manifolds over curves. In: *Global Aspects of Complex Geometry*. Springer Verlag 2006, pp. 417-450.
53. Compactifications of smooth families and of moduli spaces of polarized manifold. *Annals of Math.* **172** no2 (2010), 809-910.
54. (with M. Möller and K. Zuo) Stability of Hodge bundles and a numerical characterization of Shimura varieties, preprint 2007/09, 65 pages.
55. (with D.-Q. Zhang) Effective Iitaka fibrations, *J. Alg. Geom.* **18** (2009) 711-730
56. (with S. Müller-Stach and K. Zuo) Relative Proportionality for subvarieties of moduli spaces of K3 and abelian surfaces. *Pure Appl. Math. Quarterly* **5** (Special Issue: In honor of Friedrich Hirzebruch, Part 2, 2009) 1161-1199
57. (with M. Möller) Kobayashi geodesics in  $\mathcal{A}_g$ , preprint 2008, 20 pages.
58. (with J.-M. Hwang) Characteristic foliation on a hypersurface of general type in a projective symplectic manifold, *Compositio Math.* **146** (2) (2010), 497-506.
59. Arakelov (in)equalities. *Survey in Differential Geometry* **XIII** (2009) 245-275
60. (with H. Esnault) On a rationality question in the Grothendieck ring of varieties, *Acta Mathematica Vietnamica* **35** (1) (2010), 1-11.
61. (with H. Esnault) Surface singularities dominated by smooth varieties, *Journ. reine angew. Math.* **649** (2010), 1-9.

**Announcements and survey articles (not refereed):**

1. Classification theory of algebraic threefolds. *Rend. Sem. Mat. Univers. Politecn. Torino* **37** (1979) 11 - 16
2. Zur Klassifikationstheorie drei (und höher) dimensionaler projektiver Mannigfaltigkeiten. *Jahresber. DMV* **86** (1984) 135 - 150

3. Vanishing theorems and positivity in algebraic fibre spaces. Proc. ICM, Berkeley 1986 (Inv. Address, Sect 06), 682 - 688
4. Positivity of sheaves and geometric invariant theory. in: Proc. of the "A.I. Maltsev Conf." on Algebra and Analysis. Novosibirsk 1989. Contemporary Math. **131** (1992) 499 - 513
5. Survey on quasi-projective moduli of polarized manifolds. Material for a series of talks at the ICTP, Trieste, 1994, 18 pages
6. Commentary on D. Mumford's paper on "The classification of surfaces and other varieties". Appendix to D. Mumford's Selected Papers. 647-660, Springer Verlag, 2004
7. Positivity of direct image sheaves and applications to families of higher dimensional manifolds. ICTP-Lecture Notes **6** (2001) 249-284

**Books:**

1. (with H. Esnault) Lectures on Vanishing Theorems, Lecture Notes, Birkhäuser, DMV Seminar **20** (1992) 164 pages
2. Quasi-Projective Moduli for Polarized Manifolds. Ergebnisse der Mathematik **30** (1995) Springer Verlag, 320 pages