

Hélène Esnault

## List of publications.

### Thèse de Doctorat de 3° cycle :

Singularités rationnelles et groupes algébriques. Université Paris VII, October 1976

### Thèse de Doctorat d'Etat :

corresponds to the publications 3 - 6, Université Paris VII, Feb. 1984

### Publications:

1. Sur l'identification de singularités apparaissant dans des groupes algébriques complexes. *Publ. Math. de l'Université Paris VII*, **7** (1979), 31 - 59 (résumé of the "Thèse de 3° cycle").
2. Classification des variétés de dimension 3 et plus. Séminaire Bourbaki, exp 568, Fév 81. *Springer Lect. Notes in Math.* **901**, 111 - 131, (survey).
3. Fibre de Milnor d'un cône sur une courbe plane singulière. *Inventiones math.* **68** (1982), 477 - 496.
4. (with E. Viehweg) Revêtement cycliques. Algebraic Threefolds, Proc. Varenna 1981, *Springer Lect. Notes in Math.* **947**, 241 - 250, (survey).
5. (with E. Viehweg) Sur une minoration du degré d'hypersurfaces  $s'$  annulant en certain points. *Math. Ann.* **263** (1983), 75 - 86.
6. (with E. Viehweg) Dyson's lemma for polynomials in several variables (and the theorem of Roth). *Inventiones math.* **78** (1984), 445 - 490.
7. (with E. Viehweg) Two dimensional quotient singularities deform to quotient singularities. *Math. Ann.* **271** (1985), 439 - 449.
8. Reflexive modules on quotient surface singularities. *Journ. reine angew. Math.* **362** (1985), 63 - 71.
9. (with E. Viehweg) Revêtements cycliques II, Proc. Algebraic Geometry, La Rabida 1984, *Hermann, Travaux en cours* **23** (1987), 81 - 96.
10. (with H. Knörrer) Reflexive modules over rational double points. *Math. Ann.* **272** (1985), 545 - 548.
11. (with E. Viehweg) Logarithmic De Rham complexes and vanishing theorems. *Inventiones math.* **86** (1986), 161 - 194.
12. Characteristic classes of flat bundles. *Topology* **27** (1988), 323 - 352.

13. (with E. Viehweg) 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.
14. (with E. Viehweg) A remark on a non-vanishing theorem of P. Deligne and G.T. Mostow. *Journ. reine angew. Math.* **381** (1987), 211 - 213.
15. (with E. Viehweg) Vanishing and non-vanishing theorems. Proc. Hodge Theory, Luminy 1987 (Ed.: Barlet, Elzein, Esnault, Verdier, Viehweg). *Astérisque* **179-180** (1989), 97 - 112.
16. On the Loday symbol in the Deligne-Beilinson cohomology. *K-Theory* **3** (1989), 1 - 28.
17. A note on the cycle map. *Journal reine angew. Math.* **411** (1990), 51 - 65.
18. (with E. Viehweg) Effective bounds for semipositive sheaves and the height of points on curves over complex function fields. *Compositio math.*, **76** (1990), 69 - 85.
19. A regulator map on singular varieties. *Math. Ann.* **286** (1990), 169 - 191.
20. Une remarque sur la cohomologie du faisceau de Zariski de la  $K$ -théorie de Milnor sur une variété lisse complexe. *Math. Zeitschrift* **205** (1990), 373 - 378.
21. Some examples of computation of a regulator map on singular varieties. *Contemporary Mathematics*, **131** (1992) (Part 3), 399-417 , Proc. of the "A.I. Maltsev Conf." on Algebra and Analysis, Novosibirsk 1989.
22. Hodge type of subvarieties of  $P^n$  of small degrees, *Math. Ann.* **288** (1990), 549 - 551.
23. (with E. Viehweg) Ample sheaves on moduli schemes. "Proceedings of the Conference in Algebraic and Analytic Geometry", Tokyo, (1990), *ICM 90, Lecture Notes*, 53 - 80.
24. (with J. Seade and E. Viehweg) Characteristic divisors on complex manifolds. *Journ. reine angew. Math.* **424** (1992), 17-30
25. (with V. Srinivas) Chern classes of vector bundles with holomorphic connections on a complete smooth complex variety. *Journal of Diff. Geometry*, **36** (1992), 257-267.
26. (with V. Schechtman and E. Viehweg) Cohomology of local systems on the complement of hyperplanes. *Invent. math.* **109** (1992), 557-561. Erratum: *Invent.math.* **112** (1993), 447.
27. (with M. V. Nori and V. Srinivas) Hodge type of projective varieties of low degree, *Math. Ann.* **293** (1992), 1-6.
28. (with E. Viehweg) Lectures on Vanishing Theorems. Book. *DMV-Seminar Band* **20**, Birkhäuser, 164 pages.

29. (with B. Kahn and E. Viehweg) Coverings of odd degree and Stiefel-Whitney classes. *Journ. reine angew. Math.* **441** (1993), 145-188.
30. (with E. Viehweg) Higher Kodaira-Spencer classes. *Math. Ann.* **299** (1994), 491-527.
31. Characteristic classes of flat bundles, II. *K-Theory* **6** (1992), 45-56.
32. (with M. Levine) Surjectivity of cycle maps. In Journées de Géométrie Algébrique d'Orsay, Juillet 1992, *Astérisque* **218** (1993), 203-226.
33. (with V. Srinivas and E. Viehweg) Decomposability of Chow groups implies decomposability of cohomology. In Journées de Géométrie Algébrique d'Orsay, Juillet 1992, *Astérisque* **218** (1993), 227-242.
34. (with K. Paranjape) Remarks on absolute de Rham and absolute Hodge cycles. *C. R. Acad. Sci. Paris*, t. **319**, Série I (1994) 67-72.
35. Coniveau of classes of flat bundles trivialized on a smooth covering of a complex manifold. *K-Theory* **8** (1994), 483-488
36. (with K. Corlette) Classes of local systems of  $\mathbb{Q}$  hermitian vector spaces, Preprint 1994, 6 pages, appendix to "Riemann-Roch for flat bundles" by J.-M. Bismut, *Chinese Annals of Mathematics* **26B:1** (2005), 15-44.
37. (with S. Bloch) The coniveau filtration and non-divisibility for algebraic cycles. *Math. Ann.* **304** (1996), 303-314.
38. (with M. Levine and E. Viehweg) Chow groups on projective varieties of very small degree. *Duke Math. J.* **87** (1997), 29-58.
39. (with S. Bloch) Algebraic Chern-Simons theory. *Am. J. of Mathematics* **119** (1997), 903-952.
40. Recent developments on characteristic classes of flat bundles on complex algebraic manifolds. *Jber. d. Dt. Math.-Verein.* **98** (1996), 182-191, (survey).
41. (with B. Kahn, M. Levine, E. Viehweg) The Arason invariant and mod 2 algebraic cycles. *Journal of the American Mathematical Society* **11** (1998), 73-118.
42. Algebraic Differential Characters, in Regulators in Analysis, Geometry and Number Theory, *Progress in Mathematics*, Birkhäuser Verlag, **171** (2000), 89-117.
43. A remark on an algebraic Riemann-Roch formula for flat bundles. *K-Theory* **13** (1998), 61-68.
44. (with V. Srinivas, E. Viehweg) The universal regular quotient of the Chow group of 0-cycles on a singular projective variety, *Invent. math.* **135** (1999), 595-664.
45. (with E. Viehweg) Germs of de Rham cohomology classes which vanish at the generic point, *C. R. Acad. Sci. Paris* **326** (1998) 857-862.

46. Algebraic theory of characteristic classes of bundles with connection, in Algebraic  $K$ -theory, *Proceedings of Symposia in pure Mathematics* **67** (1999), 13-25.
47. (with S. Bloch) A Riemann-Roch theorem for flat bundles, with values in the algebraic Chern-Simons theory, *Annals of Mathematics* **151** (2000), 1-46.
48. (with E. Viehweg) Semistable bundles on curves and irreducible representations of the fundamental group, Algebraic Geometry: Hirzebruch 70, *Contemporary Mathematics* **241** (1999), 129-141.
49. (with S. Bloch) Lectures on Algebro-Geometric Chern-Weil and Cheeger-Chern-Simons Theory for Vector Bundles, in Arithmetic and Geometry of Algebraic Cycles, *Nato Science Series* **548** (2000), 3-29.
50. (with S. Bloch) Gauß-Manin determinants of rank 1 irregular connection on curves, *Math. Ann.* **321** (2001), 15-87, with an addendum: the letter of P. Deligne to J.-P. Serre (Feb. 74) on  $\epsilon$ -factors, 65-87.
51. (with M. Levine) The Steinberg curve, *Am. J. of Mathematics* **122** (2000), 783-804.
52. (with I.H. Tsai) Determinant bundle in a family of curves, after A. Beilinson and V. Schechtman, *Comm. Math. Phys.* **211** (2000), 359-363.
53. (with S. Bloch) Relatives Algebraic Characters, in Motives, Polylogarithms and Hodge Theory, *International Press Lecture Series*, vol. **3**, part I (2002), 47-75.
54. (with S. Bloch) Gauß-Manin determinant connections and periods for irregular connections, *Geom. funct. anal. Special Volume-GAFA 2000*, 1-31, Birkhäuser Verlag.
55. (with S. Bloch) A formula for Gauß-Manin determinants, preprint 2000, 37 pages.
56. (with S. Bloch) Homology for irregular connections, *Journal de Théorie des Nombres de Bordeaux* **16** (2004) no 2, 357-371.
57. (with C. Hertling) Semistable bundles and reducible representations of the fundamental group, *International Journal of Mathematics* **12**, no7 (2001), 847-855.
58. (with A. Beilinson and S. Bloch):  $\epsilon$ -factors for Gauß- Manin determinants, *Moscow Mathematical Journal*, **2** no 3 (2002), 1-56.
59. (with S. Bloch): An additive version of higher Chow groups, *Annales Scientifiques de l'École Normale Supérieure*, 4-o série, **36** (2003), 463-477.
60. (with E. Viehweg): Chern classes of Gauß-Manin bundles of weight 1 vanish, *K-Theory* **26** (2002), 287-305.

61. Characteristic classes of flat bundles and determinant of the Gauß-Manin connection, *Proceedings of the International Congress of Mathematicians, Beijing 2002*, Higher Education Press, 471-483.
62. Varieties over a finite field with trivial Chow group of 0-cycles have a rational point, *Invent. math.* **151** (2003), 187-191.
63. (with S. Bloch) The additive dilogarithm, *Documenta Math.* Extra Volume: Kazuya Kato's Fiftieth Birthday (2003), 131-155.
64. (with D. Wan) Hodge type of the exotic cohomology of complete intersections, *C. R. Acad. Sci. Paris, Ser. I* **336** (2003), 153-157.
65. (with S. Bloch) Congruences for the number of rational points, Hodge type and motivic conjectures for Fano varieties, *Cubo A Mathematical Journal*, **05**, no 03 (2003), 251-262.
66. (with S. Bloch and M. Levine) Decomposition of the diagonal and eigenvalues of Frobenius for Fano hypersurfaces, *Am. J. of Mathematics*, **127** no1 (2005), 193-207.
67. Eigenvalues of Frobenius acting on the  $\ell$ -adic cohomology of complete intersections of low degree, *C. R. Acad. Sci. Paris, Ser. I* **337** (2003), 317-320.
68. (with N. Katz): Cohomological divisibility and point count divisibility, *Compositio math.* **141** 01 (2005), 93-100.
69. (with A. Beilinson, S. Bloch, P. Deligne): Periods for irregular connections on curves, preprint 2003, 59 pages.
70. Some elementary theorems about divisibility of 0-cycles on abelian varieties defined over finite fields, *International Mathematics Research Notices* **19** (2004), 929-935.
71. (with S. Bloch): Local Fourier transforms and rigidity for  $D$ -modules, *Asian Journal of Mathematics*, special issue dedicated to Armand Borel, Vol. **8**, No 4 (2004), 587-606.
72. Appendix to "Congruences for rational points on varieties over finite fields" by N. Fakhruddin and C. S. Rajan, *Math. Ann.* **333** (2005), 811-814.
73. Deligne's integrality theorem in unequal characteristic and rational points over finite fields, *Annals of Mathematics* **164** (2006), 715-730.
74. (with P. Deligne) Appendix to "Deligne's integrality theorem in unequal characteristic and rational points over finite fields", *Annals of Mathematics* **164** (2006), 726-730.
75. Variation of Artin's vanishing theorem, *Advances of Mathematics* **198** (2005) issue 2, 435-438, special issue dedicated to M. Artin.
76. (with S. Bloch) Künneth projectors and correspondences for open varieties, in *Algebraic Cycles and Motives*, vol. 2, 54-72, *London Math. Soc. Lecture Note Ser.* **344** (2007).

77. A remark on higher congruences for the number of rational points of varieties defined over a finite field, preprint 2005, 6 pages.
78. (with Phùng Hô Hai) The Gauß-Manin connection and Tannaka duality, *International Mathematics Research Notices* **93878** (2006), 1-35.
79. (with S. Bloch and D. Kreimer) On motives attached to graph polynomials, *Comm. Math. Phys.* **267** no1 (2006), 181-225.
80. (with P. Berthelot and S. Bloch) On Witt vector cohomology for singular varieties, *Compositio math.* **143** (2007), 363-392.
81. (with M. Blickle and K. Rülling) Characteristic 0 and  $p$  analogies, and some motivic cohomology, in *Global Aspects of Complex Geometry*, ed. Catanese, Esnault, Huckelberry, Hulek, Peternell, *Springer Verlag* (2006), 59-82.
82. (with M. Blickle) Rational singularities and rational points, *Pure Appl. Math. Q.* **4** (2008), no. 3, part 2, 729-741.
83. (with Phùng Hô Hai and X. Sun) On Nori's Fundamental Group Scheme, *Progress in Mathematics*, Vol. **265** (2007), 377-398.
84. Partial connection for  $p$ -torsion line bundles in characteristic  $p > 0$ , Inspired by S. S. Chern, 173-178, *Nankai Tracts Math.* **11**, World Sci. Publ. Hackensack, NJ (2006).
85. (with Phùng Hô Hai) The fundamental groupoid scheme and applications, *Annales de l'Institut Fourier* **58** (2008), 2381-2412.
86. (with Phùng Hô Hai) Packets in Grothendieck's Section Conjecture, *Advances in Mathematics* **218** (2008), 395-416.
87. Coniveau over  $p$ -adic fields and points over finite fields, *C. R. Acad. Sci. Paris, Ser. I* **345** (2007) 73-76.
88. (with C. Xu) Congruence for rational points over finite fields and coniveau over local fields, *Transactions of the AMS* **361** (2009), 2679-2688.
89. (with M. Levine) Tate motives and fundamental group, preprint 2007, 65 pages.
90. (with A. Ogus) Hodge cohomology of invertible sheaves, in *Motives and Algebraic Cycles, A Celebration in Honour of Spencer J. Bloch*, *American Mathematical Society, Fields Institute*, **56** (2009), 83-91.
91. Algebraic differential characters of flat connections with nilpotent residues, in *Algebraic Topology*, *Abel Prisen* **4** (2007), *Springer Verlag*, 83-94.
92. (with O. Wittenberg) Remarks on the cycle classes of sections of the arithmetic fundamental group, *Moscow Mathematical Journal* **9** no3 (2009), 1-17.

93. (with O. Wittenberg) On abelian birational sections, *Journal of the American Mathematical Society* **23** (2010), 713–724.
94. (with Phùng Hô Hai) Two small remarks on Nori fundamental group scheme, *Advanced Studies in Pure Mathematics* **60** (2010), 237–243.
95. (with V. Mehta) Simply connected projective manifolds in characteristic  $p > 0$  have no nontrivial stratified bundles, *Inventiones math.* **181** (2010), 449–465.
96. (with E. Viehweg) On a rationality question in the Grothendieck ring of varieties, *Acta Mathematica Vietnamica* **35** (1) (2010), 31–41.
97. (with V. Mehta) Weak Density of the Fundamental Group Scheme, *Int. Math. Res. Not. IMRN* **13** (2011), 3071–3081.
98. (with E. Viehweg) Surface singularities dominated by smooth varieties, *Journ. reine angew. Math.* **649** (2010), 1–9.
99. (with A. Hogadi) On the algebraic fundamental group of smooth varieties in characteristic  $p > 0$ , *Transactions of the AMS* **364** (2012), 2429–2442.
100. (with P. Berthelot and K. Rülling) Rational points over finite fields for regular models of algebraic varieties of Hodge type  $\geq 1$ , *Annals of Mathematics* **176** (2012), 1–96.
101. (with J. Nicaise) Finite group actions, rational fixed points and weak Néron models, *Pure Applied Math. Q.* **7:4** in the *Special issue in memory of Eckart Viehweg* (2011), 1209–1240.
102. (with V. Srinivas) Algebraic versus topological entropy for surfaces over finite fields, preprint 2011, 18 pages.
103. (with M. Kerz) Notes on Deligne’s letter to Drinfeld dated Marc 5, 2007, preprint 2011, 19 pages. Not for publication.
104. (with A. Langer) On a positive equicharacteristic variant of the  $p$ -curvature conjecture, preprint 2011, 32 pages.
105. (with X. Sun) Stratified bundles and étale fundamental group, preprint 2011, 18 pages.
106. (with S. Bloch and M. Kerz)  $p$ -adic deformation of algebraic cycle classes, 2012, 36 pages.
107. On flat bundles in characteristic 0 and  $p > 0$ , ECM contribution, 2012, 13 pages.