

Curriculum vitae

Henry C. Pinkham

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Academic Positions

- January 2011 Professeur Associé, Economics Department, Sciences Po
- May 1994 Professeur associé, Institut Henri Poincaré, Paris
- 1985- Professor, Columbia University
- 1982-83 Visitor, Ecole Polytechnique (Palaiseau, France)
- 1979-85 Associate Professor, Columbia University
- 1977-78 Alfred P. Sloan fellow at the I.H.E.S. (on leave from Columbia)
- 1976-77 N.S.F.-C.N.R.S. exchange fellow at Paris VII and the I.H.E.S. (on leave from Columbia)
- 1974-76 Ritt Assistant Professor, Columbia University
- 1972-74 Teaching Fellow, Harvard University

Administrative Positions

- 2014- Chair, Columbia Mathematics Department
- 2001-10 Dean, Graduate School of Arts and Sciences, Columbia
- 1995-98 Undergraduate Representative, Columbia Math Department
- 1987-89 Chair, Columbia Mathematics Department

Education

- 1971-74 Ph. D. in Mathematics, Harvard University (Adviser: D. Mumford)
- 1970-71 D.E.A., Université de Paris XIII
- 1970-71 Augustus Clifford Tower Fellowship (a Harvard award) used at the Ecole Normale Supérieure, Paris
- 1966-70 A.B., Harvard College, summa cum laude in Mathematics
- 1960-66 Lycée Pasteur, Neuilly-sur-Seine, France

Fields of Interest in Mathematics

Algebraic geometry: singularities, deformation theory, relation of local and global moduli problems, degeneration of surfaces, projective embeddings. Computer algebra. Computer graphics. Optimization. Real and complex algebraic geometry of symmetric quadratic forms. The mathematics of economics. Representation theory.

PhD Students

- Jean-Yves Mérindol (Paris Thèse de troisième cycle 1983)
- Lee McEwan (Columbia Ph.D. 1985)
- K. Fan (Columbia Ph. D. 1986)

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V. Grinberg (Columbia Ph.D. 1987)
K. Matsuki (Columbia Ph.D. 1988)
Bo Ilic (Columbia Ph.D. 1995)
Sijong Kwak (Columbia Ph.D. January 1996)
Thomas Dobler (Columbia Ph.D. 1996)
Marie-Amélie Bertin (Columbia Ph.D. 2000)
Simon Lee (Columbia Ph.D. 2001)

Research Grants

Principal investigator of a number of individual NSF grants. Principal investigator of the Mathematics Department VIGRE (Vertical Integration in Graduate Research and Education) grant until 2001.

Recent Teaching

Linear Algebra and Honors Linear Algebra.
Algebraic Curves, a graduate class in algebraic geometry.
Analysis and Optimization: Mathematics 2500. A one-semester course for majors in Mathematics and Economics.
Introduction to Modern Analysis: Mathematics 4061 and 4062.
Masterpieces of Western Music, Humanities 1123.

Teaching Award

The Van Doren Teaching Award given by the undergraduate students.

Consulting (1987-1998)

Co-founder (with Ian Morrison and Dave Bayer) in 1987 of Projective Solutions, Inc, a mathematics and computing consulting firm specializing in the conversion of computer fonts from one electronic format to another (e.g. TrueType and Postscript), with contracts with Apple Computers, Microsoft, Monotype, Linotype, Morisawa, Bluesky Research and others.

Publications

1. On the Überschneidungszahl of algebraic knots. Undergraduate thesis, Harvard College, 1970.
2. Deformations of cones with negative grading. Jour. of Algebra 30, 92-102 (1974).
3. Deformations of algebraic varieties with G_m action. Harvard University Ph. D. thesis. Astérisque 20, Soc. Math. de France (1974).
4. On a result of Riemenschneider. Manuscripta Math. 16, 137-144 (1975).
5. Deformations of quotient surface singularities. Proc. Sympos. Pure Math. 30, I, 65-67(1977). Proceedings of the conference on Several Complex Variables, Williamstown, 1975.
6. Simple elliptic singularities, Del Pezzo surfaces and Cremona transformations. Proc. Sympos. Pure Math. 30, I, 69-71 (1977).
7. Normal surface singularities with C^* action. Math. Annalen 227, 183-193 (1977).

8. Deformations of normal surface singularities with C^* action. *Math. Annalen* 232, 65-84 (1978).
9. Singularités de Klein, I,II. In: Séminaire sur les singularités des surfaces, 1976-77. Springer Lectures Notes in Mathematics 777 (1980).
10. Singularités rationnelles de surfaces. Appendice. *Idem.*
11. Résolution simultanée de points doubles rationnels. *Idem.*
12. Singularités exceptionnelles, la dualité étrange d'Arnold et les surfaces K-3. *C.R. Acad. Sc. Paris* 284 (A), 14 mars 1977, 615-618.
13. Groupe de monodromie des singularités unimodulaires exceptionnelles. *C.R. Acad. Sc. Paris* 284 (A), 20 juin 1977, 1515-1518.
14. Courbes planes ayant une seule place à l'infini, d'après Abhyankar et Sathaye. Séminaire sur les singularités des surfaces. Ecole Polytechnique 1977-78. Springer Lecture Notes 777.
15. Some local obstructions to deforming global surfaces. *Nova acta Leopoldina* NF 52 Nr. 240, 173-178 (1981).
16. (with Ulf Persson) Degenerations of surfaces with trivial canonical divisor. *Annals of Math.* 113, 45-66 (1981).
17. Factorization of birational maps in dimension 3. *Proc. Sympos. Pure Math.* 40, vol. 2, 343-371 (1983).
18. Smoothings of the D_{pqr} singularities, $p+q+r=22$. *Proc. Sympos. Pure Math.* 40, vol. 2, 373-377 (1983).
19. (with Ulf Persson) Some examples of nonsmoothable varieties with normal crossings. *Duke Math. Jour.* 50, 477-490 (1983).
20. Automorphisms of cusps and Inoue-Hirzebruch surfaces. *Comp. Math.* 52, 299-313 (1984).
21. (with Robert Friedman) Smoothings of cusp singularities via triangle singularities. *Comp. Math.* 53, 303-316 (1984).
22. Appendix to "Smoothings of cusp singularities via triangle singularities." *Comp. Math.* 53, 317-324 (1984).
23. (with Ian Morrison) Galois Weierstrass points and Hurwitz characters. *Annals Math.* 124, 591-625 (1986)
24. A Castelnuovo bound for smooth surfaces. *Invent. Math.* 83, 321-332 (1986).
25. (with Sijong Kwak) Castelnuovo regularity for varieties of dimension 3 and 4, to appear in the *Journal of Algebraic Geometry* (1996).
26. (with Thomas Dobler) Trisecants to surfaces in \mathbf{P}^5 , preprint 1997.