

CURRICULUM VITAE

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Education:

1969 B. Sc. (Cand. mag.), University of Oslo

1970 D.E.A., Université de Paris (Orsay)

1972 M. Sc. (Cand.real.), University of Oslo

1976 Ph.D., Massachusetts Institute of Technology

Positions:*Permanent:*

2003– Professor, Centre of Mathematics for Applications, University of Oslo

1987– Professor, Department of Mathematics, University of Oslo

1979–1986 Assoc. professor, Department of Mathematics, University of Oslo

Visiting:

2004 (1 month) MSRI, Berkeley, USA

2004 (1 month) Institut Mittag-Leffler, Djursholm, Sweden

1997 (1 month) École Normale Supérieure, Paris, France

1992 (1 month) École Normale Supérieure, Paris, France

1988–89 Bunting Institute/Harvard University, USA

1982 (1 month) Université de Grenoble, France

1981 (2 months) Universidad Federal de Pernambuco, Recife, Brazil

1980 (spring) Institut des Hautes Études, Bures, France

1978–79 Institut Mittag-Leffler, Djursholm, Sweden

1978 (spring) École Polytechnique, Palaiseau, France

1976–77 Massachusetts Institute of Technology, USA

Honors, committees:

2003–2006 Member of the Executive Committee of the International Mathematical Union

2005– Member of the Scientific Council of CIMPA

2005– Elected member of the Royal Norwegian Society of Sciences and Letters

2005– Member of Advisory Board of MEGA

2003– Member of Scientific Advisory Panel of the European Mathematical Society

2002 Member of the “Working group for the Abel Prize”

2000 Member of the Prize Committee of the 3rd European Congress of Mathematics

1996– Member of the editorial board of *Communications in Algebra*

1995–99 Member of the Standing Committee of European Women in Mathematics

1994– Elected member of the Norwegian Academy of Science and Letters

1994–98 Member of the editorial board of *Astérisque*

1994–97 Vice Dean, Faculty of Mathematics and Natural Sciences, University of Oslo

1992 Invited lecture, First European Congress of Mathematics, Paris

1992 Invited lecture, 21. Nordic Congress of Mathematicians, Luleå
 1984 Invited lecture, 19. Nordic Congress of Mathematicians, Reykjavik

Research interests:

Algebraic Geometry, in particular enumerative geometry and intersection theory, singularities, moduli spaces, algebraic geometry and geometric modeling, algebraic methods in computer aided geometric design.

Publications:

- 1) "Faisceaux plats et purs sur la base: un théorème de finitude," C. R. Acad. Sc. Paris, 274 (1972), 194-197.
- 2) "Courbes sur un trait et morphismes de contraction," Math. Scand. 35 (1974), 5-15.
- 3) "Plücker formulas," Ph.D.Thesis, Massachusetts Institute of Technology, 1976.
- 4) "Numerical characters of a curve in projective space", In Real and complex singularities, Oslo 1976 (ed. P. Holm), Sijthoff & Nordhoff, Groningen 1978, 475-495.
- 5) "A proof of Noether's formula for the arithmetic genus of an algebraic surface," Compositio Math. 38 (1979), 113-119.
- 6) "Polar classes of singular varieties," Ann.scient.Éc.Norm.Sup. 11 (1978), 247-276.
- 7) "Some formulas for a surface in P^3 ," Algebraic Geometry, Tromsø 1977 (ed. L. Olson), Springer LNM 687 (1978), 197-235.
- 8) "Cycles polaires et classes de Chern pour les variétés projectives singulières," Séminaire sur les singularités des surfaces (Demazure-Pinkham-Teissier), École Polytechnique, Palaiseau 1977/78. In Introduction à la théorie des singularités, (ed. Lê Dung Tráng), Hermann, Paris 1988, 7-34.
- 9) "Ideals associated to a desingularization," Algebraic Geometry, Copenhagen 1978 (ed. K. Lønsted), Springer LNM 732 (1979), 503-517.
- 10) "A geometric approach to the arithmetic genus of a projective manifold of dimension three" (with F. Ronga), Topology 20 (1981), 179-190.
- 11) "Cuspidal projections of space curves," Math. Ann. 256 (1981), 95-119.
- 12) "Degenerations of complete twisted cubics," Progress in Math. 24, Birkhäuser 1982, 37-50.
- 13) "A note on higher order dual varieties, with an application to scrolls," Proc. Symp. Pure Math. 40 (1983), 335-341.
- 14) "Duality for rational normal scrolls" (with G. Sacchiero), Comm. in Algebra 12(9) (1984), 1041-1066.
- 15) "On the Hilbert scheme compactification of the space of twisted cubics" (with M. Schlessinger), American J. of Math. 107 (1985), 761-774.
- 16) "Some intrinsic and extrinsic characterizations of projective space" (with W. Fulton, S. Kleiman, H. Tai), Bull. Soc. Math. France 113 (1985), 205-210.
- 17) "On the problem of enumerating twisted cubics," Algebraic Geometry Sitges 1983 (eds. E. Casas-Alvero, G. E. Welters, S. Xambo-Descamps), Springer LNM 1124 (1985), 329-337.
- 18) "On the variety of nets of quadrics defining twisted cubics" (with G. Ellingsrud, S. Strømme), Space Curves, Proc. Rocca di Papa 1985 (eds. F. Ghione, C. Peskine, E. Sernesi), Springer LNM 1266 (1987), 84-96.
- 19) "Espacios tangentes, espacios osculantes y variedades duales," (Notes by J. Finat), Publ.Inst. "Jorge Juan" de Matematicas, Madrid 1985 (71 pages).
- 20) "A characterization of balanced rational normal scrolls in terms of their osculating spaces" (with H. Tai), Enumerative Geometry, Sitges 1987 (ed. S. Xambo-Descamps), Springer LNM 1436 (1990), 215-224.
- 21) "On the inseparability of the Gauss map" (with S. Kleiman), Proc. Zeuthen Symposium, Copenhagen 1989 (eds. S. Kleiman, A. Thorup), Contemp. Math. 123, Amer. Math. Soc. 1991, 107-129.

- 22) "Duality for elliptic normal surface scrolls" (with R. Mallavibarrena), in Proc. Zeuthen Symposium, Copenhagen 1989 (eds. S. Kleiman, A. Thorup), Contemp. Math. 123, Amer. Math. Soc. 1991, 149–160.
- 23) "A characterization of balanced rational normal surface scrolls in terms of their osculating spaces II" (with E. Ballico and H. Tai), Math. Scand. 70 (1992), 204–206.
- 24) "On the enumeration of algebraic curves – from circles to instantons," in First European Congress of Mathematics, Volume II, Prog. in Math. 120, Birkhäuser 1994, 327–353.
- 25) "Projective algebraic geometry in positive characteristic," in Analysis, Algebra and computers in Mathematical Research, Proc. 21. Nordic Congress of Mathematicians (eds. M. Gyllenberg, L. E. Persson), Marcel Dekker 1994, 263–273.
- 26) "Arithmetically Cohen-Macaulay curves of degree 4 and genus 0 in P^4 " (with M. Martin-Deschamps), Manuscripta Math. 93 (1997), 391–408.
- 27) "From conic sections to quantum cohomology – An introduction to enumerative algebraic geometry," in Selected topics in mathematics, Luleå University of Technology, 1997, 85–100.
- 28) "Enumerating singular curves on surfaces" (with S. Kleiman), Proc. Algebraic Geometry Conference Hirzebruch 70, Warsaw 1998, Contemp. Math. 241, Amer. Math. Soc. 1999, 209–238.
- 29) "On the use of parameter and moduli spaces in curve counting," in EWM Workshop on Moduli spaces in mathematics and physics (eds. F. Kirwan, S. Paycha, Tsou Sheung Tsun), Hindawi 2001, 55–64.
- 30) "Node polynomials: methods and applications" (with S. Kleiman), Math. Nachr. 271 (2004), 69–90.
- 31) "Singularities of some rational projective surfaces," in Computational Methods for Algebraic Spline Surfaces (eds. T. Dokken, B. Jüttler), Springer-Verlag 2005, 171–182.
- 32) "Monoid hypersurfaces" (with P. H. Johansen, M. Løberg), submitted.
- 33) "Node polynomials for curves on surfaces" (with S. Kleiman), in progress.

Books edited:

- 1) "The legacy of Niels Henrik Abel" (coeditor with O. A. Laudal), Springer-Verlag 2004, ISBN 3-540-43826-2.
- 2) "Algebraic Geometry and Geometric Modeling" (coeditor with M. Elkadi, B. Mourrain), Springer-Verlag (to appear).