CURRICULUM VITAE

Name:
Ragni PIENE

Address:
Department of Mathematics,
University of Oslo,
P.O.Box 1053 Blindern,
NO–0316 Oslo, Norway

Phone: (47) 22 85 59 06
Fax: (47) 22 85 43 49
E-mail: ragnip@math.uio.no
URL: http://www.mn.uio.no/math/english/people/aca/ragnip/index.html

Born:
18 January, 1947, Oslo, Norway

Education:
1976 Ph.D., Massachusetts Institute of Technology, USA
1972 M. Sc. (Cand.real.), University of Oslo, Norway
1970 D.E.A., Université de Paris (Orsay), France
1969 B. Sc. (Cand. mag.), University of Oslo, Norway

Positions:
1987– Professor, University of Oslo
1979–1986 Assoc. professor, University of Oslo

Visiting positions:
Institut Mittag-Leffler, Djursholm; MSRI, Berkeley; École Normale Supérieure, Paris; Bunting Institute/Harvard University; Université de Grenoble; Universidad Federal de Pernambuco, Recife; Institut des Hautes Études Scientifiques, Bures; École Polytechnique, Palaiseau; Massachusetts Institute of Technology.

Honors:
2012– Member of the Academia Europaea
2012– Fellow of the American Mathematical Society
1994– Member of the Norwegian Academy of Science and Letters
2004– Member of the Royal Norwegian Society for Sciences and Letters

Selected invited lectures
Invited plenary speaker British Mathematical Colloquium, Sheffield 2013
Invited speaker 1st European Congress of Mathematics, Paris 1992
Invited plenary speaker 21st Nordic Congress of Mathematicians, Luleå 1992
Invited speaker 19th Nordic Congress of Mathematicians, Reykjavik 1984

Committees/boards:
2010–2014 Chair of the Abel Committee
2013– Member of the Scientific Advisory Board of the Mathematisches Forschungsinstitut

Oberwolfach

2012– Member of the Scientific Advisory Board of RICAM (Austria)
2011– Member of the Orientation Council of INSMI, CNRS, France
2011–2014 Member of the Commission for Developing Countries of IMU
2003–2010 Member of the Executive Committee of the International Mathematical Union
2005– Member of the Scientific Council of CIMPA
2009– Member of the Scientific Advisory Board of the Berlin Mathematical School
2008– Member of the EMS/EWM Scientific Committee
2000 Member of the Prize Committee of the 3rd European Congress of Mathematics
1996– Member of the editorial board of *Communications in Algebra*
1994–98 Member of the editorial board of *Astérisque*
1995–99 Member of the Standing Committee of European Women in Mathematics
1994–97 Vice Dean, Faculty of Mathematics and Natural Sciences, University of Oslo

Research interests:
Algebraic Geometry, in particular enumerative geometry and intersection theory, singularities, moduli spaces, toric varieties; algebraic methods in computer aided geometric design, real algebraic curves and surfaces.

EU Networks
Partner in the following EU networks:
1) GAIA (Applications of approximate algebraic geometry in industrial computer aided geometry) IST–FET (2000–2001)
2) GAIA II (Intersection algorithms for geometry based IT-applications using approximate algebraic methods) FET–OPEN (2002-2005)
3) SAGA (ShApes, Geometry and Algebra) FP7– ITN (2008–2012)

Publications

1) "Faiscaux plats et purs sur la base: un théorème de finitude," C. R. Acad. Sc. Paris, 274 (l972), 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, l976.
4) "Numerical characters of a curve in projective space", In Real and complex singularities, Oslo l976 (ed. P.Holm), Sijthoff & Noordhoff, Groningen l978, 475–495.
5) "A proof of Noether's formula for the arithmetic genus of an algebraic surface," Compositio Math. 38 (l979), 113–119.
6) "Polar classes of singular varieties," Ann.scient.Éc.Norm.Sup. 11 (l978), 247–276.
7) "Some formulas for a surface in P^3," Algebraic Geometry, Tromsø l977 (ed. L. Olson), Springer LNM 687 (l978), l97–235.
8) "Cycles polaires et classes de Chern pour les variétés projectives singulières," Séminaire sur les singularités des surfaces (Demazure–Pinkham–Teissier), École Polytechnique, Palaiseau l977/78. 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 l978 (ed. K. Lønsted), Springer LNM 732 (l979), 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, Birkhaüser 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), 1–22.

31) "Singularities of some projective rational surfaces." Computational methods for Algebraic Spline Surfaces (eds. T. Dokken, B. Jüttler), Springer-Verlag 2004, 171–182.

32) "Inflectional loci of scrolls" (with A. Lanteri and R. Mallavibarrena), Math. Z. 258 (2008), 557–564.
33) "Monoid hypersurfaces" (with P. H. Johansen and M. Løberg), in Geometric Modeling and Algebraic Geometry (eds. B. Jüttler, R. Piene), Springer-Verlag 2008, 55–77.
34) "Polars of real singular plane curves" (with H. Mork), in Algorithms in Algebraic Geometry, IMA Volumes in Mathematics and its Applications, Vol. 146, Springer Science+Business 2008, 99–115.
35) "Classifying regular lattice polytopes via toric fibrations" (with A. Dickenstein and S. Di Rocco). Adv. Math. 222 (2009), no. 1, 240–254.
36) "Enriques diagrams, arbitrarily near points, and Hilbert schemes" (with S. Kleiman), Rend. Lincei Mat. Appl. 22 (2011), 4:41–451.
37) "Inflectional loci of scrolls over smooth, projective varieties" (with A. Lanteri and R. Mallavibarrena), Indiana Univ. Math. J. 61 (2012), 2:717–750.
38) "Higher dual varieties of toric embeddings" (with A. Dickenstein and S. Di Rocco), Ann. Inst. Fourier 64 (2014), 375–400.
39) "Inflectional loci of quadric fibrations" (with A. Lanteri and R. Mallavibarrena). Preprint 2013 (to appear in Journal of Algebra).
40) "Algebraic spline geometry – some remarks", to appear in Advances in Shapes, Algebra, Geometry and Algorithms, Springer-Verlag 2014.
41) "Polar varieties revisited", to appear in Computer Algebra and Polynomials, LNCS, Springer-Verlag 2014.

In progress:
42) "Node polynomials for curves on surfaces" (with S. Kleiman).
43) "Higher order selfdual toric varieties" (with A. Dickenstein).

Books edited:
1) "The legacy of Niels Henrik Abel" (coeditor with O. A. Laudal), Springer-Verlag 2004.
2) "Algebraic Geometry and Geometric Modeling" (coeditor with M. Elkadi and B. Mourrain), Springer-Verlag 2006.
3) "Geometric Modeling and Algebraic Geometry" (coeditor with B. Jüttler), Springer-Verlag 2008.
4) "The Abel Prize 2003–2007 – The First Five Years" (coeditor with H. Holden), Springer-Verlag 2010.
5) "The Abel Prize 2008–2012" (coeditor with H. Holden), Springer-Verlag 2014.