

Curriculum Vitae and Bibliography

Robert M. Fossum

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1. Curriculum Vitae

Current Addresses

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Personal information

Birth date: May 1, 1938
 Birthplace: Northfield, Minnesota
 Married: Robin K. Fossum

Mathematics Education

B.A. St. Olaf College 1959
 M.A. The University of Michigan 1961
 Ph.D. The University of Michigan 1965

Positions Held

Professor Emeritus	University of Illinois at Urbana-Champaign	2008-Present
Research Professor:	UIUC Beckman Insitute	2002-2008

Affiliate:	UIUC Beckman Institute	2000-2002
Professor:	University of Illinois at Urbana-Champaign	1972-2008
Professeur Associée:	Université de Paris VI	1978-1979
Lektor:	Københavns Universitet	1976-1977
Gæstprofessor:	Aarhus Universitet, Denmark	1972-1973
Afdelingsleder:	Aarhus Universitet, Denmark	1971-1972
Professor vikar:	Universitetet i Oslo, Norway	1968-1969
Fulbright grantee:	Oslo Norway	1967-1968
Assistant Professor:	University of Illinois at Urbana-Champaign	1966-1968
Instructor:	University of Illinois at Urbana-Champaign	1964-1966

Fellowships

Associate:	Center for Advanced Study, University of Illinois	1985-1986
Fulbright Fellowship:	Universitetet i Oslo	1967-1968

Short term Visits

Københavns Universitet:	June	1989
Mathematical Sciences Research Institute	June	1987
Aarhus University	January-June	1981 (Sabbatical)
Universite de Genova	July	1980
Politecnico di Torino	July	1978
I.H.E.S. (France)	January	1977
Aarhus Universitet	July	1970
	September	1978

Honors and Awards

Det Kongelig Norske Videnskabers Selskab (DKNVS)
 (The Royal Norwegian Academy of Sciences and Letters) Elected to Sciences Section 1994
 American Association for the Advancement of Science (AAAS), Elected Fellow 2000
 Distinguished Alumni Award, Northfield High School, 2000
 UIUC LAS Study in a Second Discipline 2000
 Sigma Xi
 Phi Beta Kappa (President UIUC Gamma Chapter 2003-2005)
 Sigma Pi Sigma (Physics Honorary)

Services to the Mathematical Sciences

American Mathematical Society Nominating Committee (elected) 2001-2004
 Secretary: American Mathematical Society (AMS) 1989-1999
 Liaison Committee, AMS
 Executive Committee, AMS
 Abstract Editorial Committee, Chair, AMS

Agenda and Budget Committee, AMS
 Long Range Planning Committee, AMS
 Committee on Education, AMS
 Committee on the Publication Program, AMS
 Committee on Publications, AMS
 Committee on Meetings and Conferences, AMS
 Committee on the Profession, AMS
 Committee on the Science Policy, AMS
 Committee on Committees, AMS
 Committee on Award for Public Service, AMS
 National Awards and Public Representation, AMS
 National Program Committee, AMS
 Nominating Committee, Chair, AMS
 Notices Editorial Committee, Chair, AMS
 Secretariat, Chair, AMS
 AMS-London Mathematical Society Joint Program Committee
 AMS-Deutsche Math Ver. Joint Program Committee
 AMS-Soc. Math. Mexicana Joint Program Committee
 AMS-MAA Joint Meetings Committee, Chair
 AMS-MAA-SIAM Joint Administrative Committee, Chair
 AMS-MAA Committee on Cooperation, AMS
 Strategic Planning Task Force, AMS
 Search Committee for Executive Director, AMS
 Associate Secretary: American Mathematical Society 1984-1987
 Editor of Proceedings of the American Mathematical Society. 1973-76
 Council AMS 1973-1976, 1984-1987, 1989-present
 Secretary: Institute for Algebraic Meditation 1976-Present

Services to the University of Illinois Urbana-Champaign Campus

UIUC Faculty Senate 1997-2003, 2005-2007
 UIUC University Statutes and Senate Procedures 1997-2001, 1999-2001 as Chair
 UIUC Faculty Senate Council 1999-2001
 UIUC Faculty Senate Executive Committee 2001-2003 as Chair
 UIUC Faculty Senate Fifth Review Commission
 University Senates Conference 2001-2003, 2005-2008
 LAS Committee on Courses and Curriculum
 LAS Search Committee for Head of Dept of Mathematics
 LAS Parliamentarian
 Department of Mathematics Executive Committee
 Department of Mathematics Promotion and Tenure Committee
 Department of Mathematics Graduate Affairs Committee
 Department of Mathematics Library Committee
 Department of Mathematics Computer Committee
 Department of Mathematics Colloquium and Named Lectures Committee
 President's Council
 Campus Charitable Fund Drive, Chair 2005-2006

Other Professional Organizations as a member

American Mathematical Society
 Association of Computer Machinery (ACM)
 American Association for the Advancement of Science (AAAS), Elected Fellow 2000
 Dansk Matematisk Forening
 European Mathematical Society
 Institute for Algebraic Meditation, Secretary
 IEEE Computer Society
 Society for Industrial and Applied Mathematics (SIAM)
 Heimskringla (Urbana-Champaign)
 Society for the Advancement of Scandinavian Studies (SASS)
 International Association of Mathematical Physics
 Trønderlag of America (President)
 Spurlock Museum Guild (Treasurer)

Listed

Who's Who in the World
Who's Who in America

2. Bibliography

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1. The noetherian different of projective orders, *Bull. Amer. Math. Soc.* 72 (1966), 898-900.
2. The noetherian different of projective orders, *J. reine u. angew. Math* 224 (1966), 209-220.
3. Grothendieck groups and divisor groups, *Proc. Amer. Math. Soc.* 18 (1967), 560-565.
4. Higher rank class groups (with L. Claborn), *Bull. Amer. Math. Soc.* 73 (1967), 233-237.
5. Class groups of n -noetherian rings (with L. Claborn), *J. Algebra* 10 (1968), 263-285.
6. Generalizations of the notion of class group (with L. Claborn), *Illinois J. Math.* 12 (1968), 228-253.
7. Maximal orders over Krull domains, *J. Algebra* 10 (1968), 321-332.
8. Vector bundles over spheres are algebraic, *Invent. Math.* 8 (1969), 222-225.
9. Duality over Gorenstein rings, *Math. Scand.* 26 (1970), 165-176.
10. A generalization of Serre's conjecture is false, pp. 7-11 in *Papers from the 'Open House for Algebraists'*, Various Publ. Series (Aarhus Univ., Aarhus, 1970).
11. Gorenstein rings and related rings (with I. Reiten), pp. 141-161 in *Papers from the 'Open House for Algebraists'*, Various Publ. Series (Aarhus Univ., Aarhus, 1970).
12. Injective modules over Krull orders, *Math. Scand.* 28 (1971), 233-246.
13. Review of *Ample Subvarieties of Algebraic Varieties*, by Robin Hartshorne (Springer-Verlag, Lecture Notes in Math, Berlin-Heidelberg-New York, 1971), *Zentralblatt* 1 208 (1971) 489-492.
14. Commutative n -Gorenstein rings (with I. Reiten), *Math. Scand.* 31(1972), 33-48.
15. Trivial extensions of abelian categories and applications to rings: An expository account (with I. Reiten and P. Griffith), pp. 125-152 in *Ring Theory*, (Academic Press, New York, London, 1972).
16. *The homological algebra of trivial extensions of abelian categories with applications to ring theory*, Aarhus Univ. Preprint Series 1972/73 No. 3 and *Lecture Notes in Math.* No. 456 Springer 1975 (with P. Griffith and I. Reiten).
17. On Picard groups of algebraic fibre spaces (with B. Iverson), *J. Pure Appl. Algebra* 3 (1973), 269-280.
18. *The Divisor Class Group of a Krull Domain*, *Ergebnisse der Mathematik und ihrer Grenzgebiete*

- Springer- Verlag, Berlin, Heidelberg, New York, 1973.
19. Commutative extensions by canonical modules are Gorenstein rings, Aarhus Univ. Preprint Series 1972/73 No. 5 and Proc. Amer. Math. Soc. 40(1973), 395-400.
 20. The category of graded modules (with H. B. Foxby), Math. Scand. 35 (1974), 288-300.
 21. Review of Invariant Theory, Old and New, by Dieudonne and Carroll (Academic Press, New York, 1971), Zentralblatt 258 (1974) 81-82
 22. A complete local factorial ring of dimension 4 which is not Cohen-Macaulay (with P. Griffith), Bull. Amer. Math. Soc. 81 (1975), 111-113.
 23. Complete local factorial rings which are not Cohen Macaulay in characteristic p (with P. Griffith), Ann. Sci. Ecole Normale Sup. (4) 8 (1975), 189-200.
 24. Minimal injective resolutions with applications to dualizing modules and Gorenstein modules (with H. B. Foxby, I. Reiten, and P. Griffith), Publ. Math. I.H.E.S. 45 (1975), 193-215.
 25. The structure of indecomposable injective modules, Math. Scand. 36 (1975), 291-312.
 26. Review of Homologie des Algebre Commutatives, by Andre (Springer Verlag, Berlin, Heidelberg, 1974), Math Reviews 1 50 (1975) 653-654
 27. Rings of invariants of groups acting on polynomial rings, Proc. Conference on Commutative Algebra, Queen's Papers on Pure and Applied Math. No. 42, (1975).
 28. Decomposition of symmetric and exterior powers, in characteristic p , Lecture Notes in Math. 641 (1978), 1-112 (with G. Almkvist).
 29. The geometry of algebraic groups--The Picard group, Lecture Notes in Math. Politecnico di Torino (1978).
 30. Tensor functors of complexes (d'apres Nielsen), Lecture Notes in Math. 795 (1980), 291-318.
 31. Invariant theory, representation theory, commutative algebra--menage a trois. Sem. Dubreil, Malliavin., Lecture Notes in Mathematics 867 (1981), 1-37.
 32. Formes differentielles non fermees, Expose V dans Seminaire sur le Princeaux de Courbes de genre au moins 2 (L. Szpiro). Asterisque 86(1981), 90-96.
 33. Decompositions revisited. Sem. Dubreil-Malliavin 1981, Lecture Notes in Mathematics 924 (1982), 260-295.
 34. Invariants and Schur Functors in characteristic $p > 0$, Proc. Tablice Younga i funktoiry Schura w algebrze i geometrii., Asterisque 88 (1982), 85-96.
 35. Invariants of formal group law actions, Bulletin Amer. Math. Soc. (New Series) 9 (1983), 327-329.
 36. A characteristic class in algebraic K-theory. Proc. Colloque d'Algebre Rennes, 1980
 37. Invariants and formal group law actions. Proceedings of Joint summer Research Conference on Group Actions on Rings. Contemporary Mathematics A.M.S. Vol. 43(1985), 121-136.
 38. Invariant Theory: Proceedings of the AMS Special Session held at the 830th Meeting of the American Mathematical Society in Denton, Texas, October 31-November 1, 1986. Edited by R. Fossum, W. Haboush, M. Hochster and V. Lakshmibai. Contemporary Mathematics, vol 88, American Mathematical Society, Providence, R.I. 1989.
 39. One dimensional formal group actions. Contemporary Mathematics, A.M.S. vol 88 (1989) 227-397.
 40. NB: Niels Bohr. Scandinavian Studies 60(1988), 79-84.
 41. Minimal injective resolutions. Sem. P. Dubreil (preprint), 1975.
 42. \mathcal{A} -theory (preprint), 1977, Torino, Italy.
 43. A characteristic class in algebraic K-theory, Aarhus Univ. Math. Inst. Preprint Series (preprint) (with B. Iversen and H. B. Foxby), 1979.
 44. Whitehead torsion and higher order Mennicke symbols (with Foxby and Iverson) (preprint), 1982.
 45. Characteristic classes and \mathcal{A} -theory (with Foxby and Iverson) (preprint), 1983.
 46. The Brauer group of a Dedekind domain in a global number field (Preprint) University of Illinois,

- 1966.
47. The Cohomology algebra of a Commutative Group Scheme. Trans. Amer. Math. Society. vol 339 (1993), 553-565 (With W. Haboush).
 48. *A Century of Mathematical Meetings*; American Mathematical Society, Providence, R.I. 1996 (Bettye Anne Case, Editor; Associate Editors; Richard Askey, Paul Bateman, Wistar Comfort, Robert Fossum, Everett Pitcher).
 49. Generalized rank conditions in multiple view geometry with applications to dynamical scenes. In Computer Vision---ECCV 2002. Springer Lecture Notes in Computer Science. Springer Verlag (with Kun Huang and Yi Ma).
 50. Hilbert functions and applications to the estimation of subspace arrangements. International Conference on Computer Vision (ICCV), 2005. (with Allen Yang, Shankar Rao, Andrew Wagner, and Yi Ma).
 51. Multiplicative Invariant Theory (Book Review). SIAM Review (2006) 20-21.
 52. The Algebra and Statistics of Generalized Principal Component Analysis, Shankar Rao, Harm Derksen, Robert Fossum, Yi Ma, Andrew Wagner, and Allen Yang, SPIE conference on Visual Communications and Image Processing (VCIP), January 2007.
 53. Estimation of Subspace Arrangements with Applications in Modeling and Segmenting Mixed Data, with comments from the editor. Yi Ma, Allen Yang, Harm Derksen, and Robert Fossum, SIAM Review, vol.50, no. 3, August 2008.
 54. Ka Lung Law, Robert M. Fossum, Minh N. Do, "Multidimensional signal reconstruction from multichannel acquisition," *icassp*, pp.3201-3204, 2009 IEEE International Conference on Acoustics, Speech and Signal Processing, 2009
 55. K.L.Law, M.N. Do and R.M. Fossum, "Generic Invertibility of Multidimensional FIR Multirate Systems and Filter Banks", Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP'09), April 2009.

Numerous reports and editorials in *Notices* of the American Mathematical Society.

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