

CURRICULUM VITA: MALCOLM R. ADAMS

Education:

B.A. University of Oregon, June 1978
Ph.D. Massachusetts Institute of Technology, June 1982

Academic Positions:

1982-1984 Half-time NSF Postdoctoral Fellow and Half-time Lecturer,
University of California at Berkeley
1984 - 1985 Member, Institute for Advanced Study, Princeton
1984 - 1990 Assistant Professor, University of Georgia
1990 - 1995 Associate Professor, University of Georgia
Fall 1993 Visiting Scholar, University of Kansas
1995 - 1998 Associate Department Head, University of Georgia
1995 - Professor, University of Georgia

Awards:

National Science Foundation Graduate Fellowship	1978-81
National Science Foundation Postdoctoral Fellowship	1982-84
Michael Award (UGA)	1992
Sandy Beaver Teaching Award (UGA)	2001
McCay Award (UGA)	2001

Graduate Students:

Clay Mason	MA	1992
Alok Dhital	MA	1992
Sasa Kresic-Juric	Ph.D.	1995
Piotr Hebda	MA	2001
Mark Hannah	MA	2002
Hye-Won Lee	MAMS	2002

Publications:

Books:

- 1) Measure Theory and Probability (with V. Guillemin) Wadsworth, Monterey, CA, 1986 (reprinted with corrections by Birkhauser, 1996).
- 2) Linear Algebra: a geometric approach (with T. Shifrin) Freeman, New York (2001).

Research Articles:

- 1) Spectral properties of zeroth order pseudodifferential operators, J. Func. Anal. 52 No. 3(1983), 420-441.
- 2) The group of Fourier integral operators as symmetry group, (with T. Ratiu and R. Schmid), Proc. of 13th International Colloquium on Group Theoretical Methods in Physics, (College Park, Maryland, 1984), World Sci. Publishing, Singapore, (1984), 246-249.
- 3) The Lie group structure of diffeomorphism groups and invertible Fourier integral operators with applications, (with T. Ratiu and R. Schmid), *Infinite Dimensional Groups with Applications*, ed. V. Kac, Springer-Verlag, New York, 1985, pp. 1-69.

- 4) A Lie group structure for pseudodifferential operators, (with T. Ratiu and R. Schmid), *Math. Ann.* 273 (1986), 529-551.
- 5) A Lie group structure for Fourier integral operators, (with T. Ratiu and R. Schmid), *Math. Ann.* 276 (1986), 19-41.
- 6) The three point vortex problem: Commutative and non-commutative integrability, (with Tudor Ratiu), *Contemporary Mathematics*, vol. 81, ed. Kenneth R. Meyer and Donald G. Saari, AMS, Providence, 1988, pp. 245-257.
- 7) Isospectral Hamiltonian flows in finite and infinite dimensions, I. Generalized Moser systems and moment maps into loop algebras, (with J. Harnad and E. Previato), *Comm. Math. Phys.* 117 (1988), 451-500.
- 8) A generating function proof of the commutativity of certain Hamiltonian isospectral flows, (with J. Harnad), *Lett. Math. Phys.* 16 (1988), 269-272.
- 9) Isospectral Hamiltonian flows in finite and infinite dimensions II. Integration of flows, (with J. Harnad and J. Hurtubise), in *Comm. Math. Phys.* 134 (1990), p. 555-585.
- 10) Dual Moment Maps into Loop Algebras, (with J. Harnad and J. Hurtubise), *Lett. Math. Phys.* 20 (1990), p. 299-308.
- 11) Integrable Hamiltonian Systems on Rational Coadjoint Orbits, (with J. Harnad and J. Hurtubise), *Hamiltonian Systems, Transformation Groups and Spectral Transform Methods*, ed. J. Harnad and J. E. Marsden, Les publications CRM, Montreal (1990) p. 19-32.
- 12) Remarks on Integrable Hierarchies in Finite Dimensions, (with R. L. Anderson and R. Varley), *Hamiltonian Systems, Transformation Groups and Spectral Transform Methods*, ed. J. Harnad and J. E. Marsden, Les publications CRM, Montreal (1990) p. 3-18.
- 13) Liouville Generating Functions for Isospectral Flow in Loop Algebras, (with J. Harnad and J. Hurtubise), (25 typed pages). *Integrable and Superintegrable Systems*, ed. B. Kuperschmit, 1990, World Scientific
- 14) Heisenberg algebras, Grassmannians and Isospectral Curves, (with M. Bergvelt), *The Geometry of Hamiltonian Systems*, MSRI Publication 22, ed. T. Ratiu, Springer, New York, 1991, p. 1-8.
- 15) Coadjoint orbits, spectral curves and Darboux coordinates, (with J. Harnad and J. Hurtubise), *The Geometry of Hamiltonian Systems*, MSRI Publications 22, ed. T. Ratiu, Springer, New York, 1991, p. 9-22.
- 16) Symmetric Lagrangian Singularities and Gauss Maps of Theta Divisors, (with C. McCrory, T. Shifrin, and R. Varley), *Singularity Theory and its Applications*, Warwick 1989, part I, ed. J. Montaldi and D. Mond, *Lecture Notes in Mathematics* 1462, Springer, New York, 1991.
- 17) Invariants of Gauss maps of theta divisors (with C. McCrory, T. Shifrin, R. Varley), *AMS Proc. Symp. Pure Math.* 54, part 2 (1993), pp. 1-8. *Journal Articles:*
- 18) Darboux Coordinates and Liouville-Arnold Integration in Loop Algebras, (with J. Harnad and J. Hurtubise), *Comm. Math. Physics* 155 (1993), pp. 385-413.
- 19) The Krichever map, vector bundles over algebraic curves, and Heisenberg algebras (with M. Bergvelt), *Comm. Math. Physics* 154 (1993), pp. 265-305.
- 20) Darboux Coordinates on Coadjoint Orbits of Lie Algebras (with J. Harnad and J. Hurtubise), *Letters in Math. Phys.* 40 (1997), 41-57.
- 21) Conic Lagrangian Singularities (with C. McCrory, R. Varley, and T. Shifrin), *Topology and its Application* 88 (1998), 155-178.

- 22) Hamiltonians and zero-curvature equations for integrable partial differential equations (with S. Kresic-Juric) JMP 42, p. 213-224, (2001).