CURRICULUM VITA: Malcolm R. Adams

EDUCATION:

University of Oregon	Mathematics and Physics	B.A.	June 1978
Massachusetts Institute of Technology	Mathematics	Ph.D.	June 1982
A PPOINTMENTS.			

APPOINTMENTS:

- 2010 Department Head, University of Georgia
- 1995 Professor, University of Georgia
- 1995 1998 Associate Department Head, University of Georgia
- 1993 (Fall) Visiting Scholar, University of Kansas
- 1990 1995 Associate Professor, University of Georgia
- 1984 1990 Assistant Professor, University of Georgia
- 1984 1985 Member, Institute for Advanced Study, Princeton
- 1982 1984 Half-time NSF Postdoctoral Fellow and Half-time Lecturer, Univ. of Cal. Berkeley

AWARDS:

- 1978 1981 National Science Foundation Graduate Fellowship
- 1982 1984 National Science Foundation Postdoctoral Fellowship
- 1992 Michael Award (UGA)
- 2001 Sandy Beaver Teaching Award (UGA)
- 2001 McCay Award (UGA)
- 2005 2008 General Sandy Beaver Teaching Professorship (UGA)

GRADUATE SSTUDENTS:

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
Billy Jackson	MA	2004
Tremaine Skeen	MA	2004
Samuel Obara	MA	2005
Ryan Byrd	MA	2007
Sheree Sharpe	MA	2007

BOOKS:

- 1. *Measure Theory and Probability* (with V. Guillemin, Wadworth, Monterey, CA, 1986 (reprinted with corrections by Birkhauser, 1996)
- 2. Linear Algebra: a geometric approach (with T. Shifrin), Freeman, New York, 2001 (second edition: 2010)

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. A generating function proof of the commutativity of certain Hamiltonian isospectral flows, (with J. Harnad), Lett. Math. Phys. 16(1988), 269-272.

7. 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.

8. 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.

9. Integrable Hamiltonian Systems on Rational Coadjoint Orbits, (with J. Harnard 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.

10. Remarks on Integrable Hierarchies in Finite Dimensions, (with R. L. Anderson and R. Varley), Hamiltonian Systems, Tranformation Groups and Spectral Transform Methods, ed. J. Harnad and J. E. Marsden, Les publications CRM, Montreal (1990) p. 3-18.

11. 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

12. 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.

13. Dual Moment Maps into Loop Algebras, (with J. Harnad and J. Hurtubise), Lett. Math. Phys. 20 (1990), p. 299-308.

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.

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).

23. Analysis of a Certain Class of Replicator Equations (with A. Sornborger), J. Math. Biol. 54, no. 3, p. 357-384, (2007)

24. The Evolution of Fidelity in Sensory Systems (with A. Sornborger), J. Theoretical Biology, 253, p. 142-150, (2008)

25. Recurrent epidemics resulting from secondary transmission routes in SIR models (with S. Obara), Electron. J. Diff.Equ. 2011, no. 142, p. 1-12, (2011)

26. On sub-Riemannian Geodesics induced by the Engel Fields: Hamilton's equations (with J. Tie), Mathematische Nachrichten 286, no. 14-15, pp. 1381-1406