

CURRICULUM VITA

NAME: Melvin F. Janowitz

BIRTH DATE: 5/8/29

Research Interests: consensus theory, lattices, sheaf theory as applied to algebraic structures, cluster analysis, pattern recognition, applications of algebra to the life and social sciences, directed graphs, intersection graphs.

EDUCATION:

1950	University of Minnesota	B.A.
1963	Wayne State University	Ph.D.

PROFESSIONAL EMPLOYMENT:

1964-66	University of New Mexico	Assistant Professor.
1966-67	Western Michigan University	Associate Professor.
1967-70	University of Massachusetts	Associate Professor.
1970-2000	University of Massachusetts	Professor.
1979-1983	University of Massachusetts	Assistant Dean, Faculty of Natural Sciences and Mathematics.
Sum. 1983	Naval Oceanographic Office Bay St. Louis, MS	Faculty Internship.
Sum. 1984	Naval Oceanographic Office Bay St. Louis, MS	Consultant on pattern recognition.
2000-	Associate Director, DIMACS	

PROFESSIONAL SOCIETY MEMBERSHIP, ACTIVITIES, HONORS:

American Mathematical Society.

Classification Society of North America (CSNA).

The Society for Social Choice and Welfare.

Society for Industrial and Applied Mathematics

CSNA Board of Directors, 1991-1994.

Chairman, Membership Committee, CSNA, 1991-1994.

CSNA Board of Directors, 1995-1998.

Editorial Board, Mathematical Social Sciences, 1981-1993.

Editorial Board, Journal of Classification, 1994-2003.

Hosted International Conference on Ordinal Data at the University of Massachusetts in October, 1994.

Member Organizing Committee International Conference on Ordinal Data and Symbolic Data Analysis held in Paris in June, 1995.

Chairman, Nominating Committee, CSNA, 1995.

Hosted joint conference of CSNA and the Numerical Taxonomy Group at the University of Massachusetts in June, 1996.

Member Organizing Committee International Conference on Ordinal Data and Symbolic Data Analysis to be held in Darmstadt in March, 1997. Also will give invited address.

Awarded lectureship in Distinguished Faculty Lecture Series at University of Massachusetts for 1996-7.

Visited University of Wollongong in Australia for 1 month during 1999.

Visited University of Paris for 1 month during 2000.

Hosted large special session on consensus at the January AMS meeting in Washington, DC in 2000.

Gave invited paper to AMS meeting in Columbia, SC in 2001.

Organizing committee for Bioconsensus workshop at DIMACS in 2000. Second workshop in 2001.

Attended Classification Society of North America meeting in St Louis in 2001.

Attended Classification Society of North America meeting in Tallahassee, Florida in 2003

Invited speaker and member of organizing committee for Ordinal and Symbolic Data Analysis (OSDA) meeting in Irvine, CA in 2003. Also appointed chair of editorial committee for Proceedings.

Scientific committee of International Federation of Classification Societies (IFCS) meeting in Chicago in 2004.

President-elect Classification Society of North America

Organizing committee DIMACS workshop on reticulated evolution September 20-22, 2004.

Organizing committee Joint workshop DIMACS-Lamsade (University of Paris) Applications of computer science to decision theory.

LIST OF PUBLICATIONS

- 1963 *Quantifiers and orthomodular lattices*, Pacific J. Math. **13**, 1241-1249.
- 1964 *On the antitone mappings of a poset*, Proc. Amer. Math. Soc. **15**, 529-533.
- 1965 *Baer Semigroups*, Duke Math. J. **32**, 85-96.
- 1965 *IC-Lattices*, Portugal. Math. **24**, 115-122.
- 1965 *Quantifier theory on quasi-orthomodular lattices*, Illinois J. Math. **90**, 660-676.
- 1965 *A characterization of standard ideals*, Acta Math. Acad. Sci. Hung. **16**, 289-301.
- 1966 *A semigroup approach to lattices*, Canadian J. Math. **18**, 1212-1223.
- 1966 *A note on normal ideals*, J. Science Hiroshima Univ., Ser. A-1 **30**, 1-9.
- 1967 *The center of a complete relatively complemented lattice is a complete sublattice*, Proc. Amer. Math. Soc. **18**, 189-190.
- 1968 *Residuated closure operators*, Portugal. Math. **26**, 221-252.
- 1968 *On conditionally upper continuous lattices*, J. Science Hiroshima Univ., Ser. A-1 **32**, 1-4.
- 1968 *A note on generalized orthomodular lattices*, J. of Natural Sciences and Math. **8**, 89-94.
- 1968 *Perspective properties of relatively complemented lattices*, J. of Natural Sciences and Mathematics **8**, 193-210.
- 1968 *Section semicomplemented lattices*, Math. Zeitschr. **108**, 63-76.
- 1969 *Decreasing Baer semigroups*, Glasgow Math. J. **10**, 46-51.
- 1969 *A note on Brouwerian and Glivenko semigroups*, J. London Math. Soc. **1**, (2), 733-736 (with C. Johnson, Jr.).
- 1969 *On decreasing Baer*-semigroups*, Bulletin de la Soc. Royale des Sciences de Liège **38**, 414-423.
- 1970 *On the modular relation in atomistic lattices*, Fundamenta Mathematicae **66**, 337-346.
- 1970 *Principal multiplicative lattices*, Pacific J. Math. **33**, 653-656.
- 1970 *Separation conditions in relatively complemented lattices*, Colloq. Math. **22**, 25-34.
- 1971 *Indexed orthomodular lattices*, Math. Z. **119**, 28-32.
- 1971 *On the lattice of left annihilators of certain rings*, Fundamenta Mathematicae **71**, 199-205.
- 1971 *Equivalence relations induced by Baer*-semigroups*, Journal of Natural Sciences and Mathematics **11**, 83-102.
- 1972 *Residuation Theory* by T. S. Blyth and M. F. Janowitz, Oxford, Pergamon Press, 382 pp.
- 1972 *The near center of an orthomodular lattice*, J. of Austral. Math. Soc. **14**, 20-29.
- 1972 *Constructible lattices*, J. of Austral. Math. Soc. **14**, 311-316.
- 1973 *Orthomodular generalizations of homogeneous Boolean algebras*, J. of Austral. Math. Soc. **14**, 94-104 (with D. J. Foulis & C. H. Randall).
- 1973 *A note on a paper by Iqbalunissa*, Fundamenta Mathematicae **73**, 177-182.
- 1975 *Examples of statisch and finite-statisch AC-lattices*, Fundamenta Mathematicae **89**, 225-232.

- 1975 *Semimultiplicative residuated mappings*, Algebra Universalis **5**, 431-434.
- 1975 *Annihilator preserving congruence relations of lattices*, Algebra Universalis **5**, 393-396.
- 1976 *Finite-distributive atomistic lattices*, Portugal. Math. **35**, 81-91 (with N. H. Coté).
- 1976 *Modular SM-semilattices*, Algebra Universalis **6**, 13-20.
- 1976 *A note on Rickart rings and semiBoolean algebras*, Algebra Universalis **5**, 1-12.
- 1976 *On the "Del" relation in certain atomistic lattices*, Acta Math. Acad. Sci. Hung. **28**, 231-240.
- 1977 *A triple construction of SM-semilattices*, Algebra Universalis **7**, 389-402.
- 1978 *An order theoretic model for cluster analysis*, SIAM J. App. Math. **34**, 55-72.
- 1978 *Semiflat L-cluster methods*, Discrete Math. **21**, 47-60.
- 1978 *Complemented congruences on complemented lattices*, Pacific J. Math. **73**, 87-90.
- 1978 *Note on the center of a lattice*, Math. Slovaca. **28**, 235-242.
- 1979 *Monotone equivariant cluster methods*, SIAM J. App. Math. **37**, 148-165.
- 1979 *A note on phenetic and phylogenetic classifications*, Syst. Zoology **28**, 197-199.
- 1979 *A note on Jardine and Sibson's C_u -methods*, Math. Biosciences **46**, 205-208.
- 1979 *Preservation of global order equivalences*, J. Math. Psych. **20**, 78-88.
- 1980 *Similarity measures on binary data*, Syst. Zool. **29**, 342-359.
- 1980 *Applications of the theory of partially ordered sets to cluster analysis*, in "Universal Algebra and Applications", Banach Center Publications **9**, 305-319.
- 1981 *Continuous L-cluster methods*, Discrete Applied Math. **3**, 107-112.
- 1983 *On the *-order for Rickart *-rings*, Algebra Universalis **16**, 360-369.
- 1983 *Cluster Analysis Package for Image Segmentation*, in "PAME Proceedings", NORDA Technical Note 176, Robert M. Brown ed., 1-45.
- 1984 *A cluster analysis program for image segmentation*, in "Statistical Image Processing", Edward J. Wegman and James G. Smith eds., Marcel Dekker, 399-410.
- 1985 *On the semilattice of weak orders of a set*, Mathematical Social Sciences **8**, 229-239.
- 1986 *Range-residuated mappings*, Journal of Mathematical Analysis and Applications, **113**, 390-402.
- 1986 *Tolerances and congruences on lattices*, Czech. Math J. **36**, 108-115.
- 1986 *Ordinal Filtering in digital image processing*, in "Statistical Image Processing & Graphics", Edward J. Wegman and Douglas DePriest, eds., Marcel Dekker, 25-41.
- 1986 *Induced social welfare functions*, Mathematical Social Sciences **15**, 261-276.
- 1989 *Ordinal and percentile clustering*, Mathematical Social Sciences **18**, 135-186, (with B. Schweizer).
- 1990 *On the role of continuity in cluster analysis*, invited article in the April, 1990 issue of CSNA Newsletter.
- 1990 *Interval order and semiorder lattices*, Foundations of Physics **20**, 715-732.

- 1990 *What is percentile clustering?*, invited article in the November, 1990 issue of CSNA Newsletter (with B. Schweizer).
- 1991 *Regularity of residuated mappings*, Semigroup Forum **42**, 313-342.
- 1991 *A converse to the Sholander embedding theorem*, Discrete Mathematics **87**, 315-318.
- 1991 *A formal theory of consensus*, SIAM Journal on Discrete Math. **4**, 305-322 (jointly with J. P. Barthélemy).
- 1991 *n-median semilattices*, Order **8**, 185-195 (with H.-J. Bandelt and G. C. Meletiou).
- 1992 *A duality between fuzzy and percentile clustering*, Fuzzy Sets and Systems **50**, 51-58 (with R. C. Powers).
- 1993 *Preservation of weak order equivalence*, Math. Social Sciences **25**, 181-197 (with Ralph Stinebrickner).
- 1993 *Neutral consensus functions*, Math. Social Sciences **25**, 231-250 (with Gary D. Crown and Robert C. Powers).
- 1993 Review of “How to read and do mathematical proofs”, by Daniel Solow, in American Math. Monthly **2**, 197-199.
- 1993 *Compatibility in a graph-theoretic setting*, Math. Social Sciences **25**, 251-279 (with Ralph Stinebrickner).
- 1994 *Tolerances, interval orders and semiorders*, Czechoslovak Math. Journal **44**, 21-38.
- 1994 *An ordered set approach to neutral consensus functions*, in “New Approaches in Classification and Data Analysis”, E. Diday *et al* eds., Springer-Verlag, Berlin, 102-110 (with G. D. Crown and R. C. Powers).
- 1995 *On the classification of monotone-equivariant cluster methods*, in “Partitioning Data Sets”, P. Hansen *et al* eds., vol. 19, DIMACS Series in Discrete Mathematics and Theoretical Computer Science, American Math. Society, Providence, pp. 117-141 (with R. Wille).
- 1995 *An ordinal model for cluster analysis – 15 years in retrospect*, in “From Data to Knowledge: Theoretical and Practical Aspects of Classification, Data Analysis and Knowledge Organization”, W. Gaul, D. Pfeifer eds., Springer-Verlag, Berlin, pp. 58-72.
- 1995 *Further results on neutral consensus functions*, Math. Inf. et Sciences Humaines **33**, 5-11 (with G. D. Crown and R. C. Powers).
- 1996 *Boolean products of lattices*, Order **13**, 175-205 (with G. D. Crown and John Harding).
- 1997 *A bundle representation for continuous geometries*, Advances in Applied Mathematics **19**, 282-293 (with John Harding).
- 1998 Review of “Classification and Clustering”, by P. Arabie, L. J. Hubert and G. DeSoete in Journal of Classification **15**, 151-153.
- 1999 *Primes, Coprimes and Multiplicative Elements*, Comment. Math. Univ. Carolinae (with Robert C. Powers and Thomas Riedel). **40**, 607-615.
- 2001 *An injective Set Representation for closed systems of sets, Bioconsensus* (with Gary D. Crown), DIMACS Book series **61**, American Math. Society, 2001 .
- 2001 *Quasiorder representations of k-weak hierarchies*, presented to the American Math Society at the January, 2002 meeting (with G. D. Crown).

- 2002 *Pyramids and Closed Weak Hierarchies in the Ordinal Model For Clustering*, (with Patrice Bertrand), Discrete Applied Mathematics, **122**, 55-81.
- 2003 *The k -Weak Hierarchies: an extension of the Weak Hierarchies*, (with Patrice Bertrand). Discrete Applied Mathematics **127**, 199-220.
- 2003 *Permutation Invariance*, Algebra Universalis (with Richard Cramer-Benjamin and Gary D. Crown) **49**, 321-342.
- 2003 *A natural classification of isotone real mappings*, invited address at OSDA meeting in Irvine, CA