

I. GENERAL DEVELOPMENTS

A. PERSONNEL ACTIVITIES

During the spring semester 1975, Professor John B. Giever was acting chairman of the department. During this same period, Professors Richard Bagby, Eldon Boes and John DePree were on sabbatical leave at Washington University, Sandia Laboratories, and the University of British Columbia, respectively; while Professor Irvin Vance was on leave without pay working with the Educational Development Center, School Community Outreach, Project ONE, in Newton, Massachusetts. Also on leave without pay for the spring semester and fall semester 1975 were Professors Wolfgang Liebert and Mark Mandelker who were at Technische Universitat, Munich, West Germany and University of California, respectively. On sabbatical during the all semester of 1975 were Professor David Arnold who was at the University of Washington and Professor Keith Phillips who was at the California Institute of Technology. During the reporting period, the department had as visiting professors: George Akst, Y.K. Chan, James Daly, Thomas Dence, Gerald Garfinkel, Douglas McMahon, James Pendergrass, William Shannon, Eric Slud, and Wesley Terry. Each of these filled positions that were created either by people on leave or resigning at a time when it was awkward to replace them. Professor Boes found his work in solar energy research so professionally attractive that he resigned his position with the university to take a permanent position with Sandia Laboratories. He has agreed to fully reimburse the university the sabbatical salary which was paid to him during the 1974-75 academic year. Two new faculty members; Darell Johnson, in approximation theory, and Lawrence Myers, in probability, were given regular appointments effective the fall semester of 1975.

The department continues to maintain active colloquia and seminar programs (algebra, algorithms, analysis, constructive mathematics, K-theory, and statistics) which have proved vital to maintaining an environment conducive to good mathematical research. The annual holiday symposium, which was held during the 1975 Christmas holidays featured Professor John Tate of Harvard University. The seminar was on " K_2 of Fields, and Connections with Arithmetic" and attracted participants from throughout the United States and Canada. After 13 consecutive years of complete funding from the National Science Foundation, the department this year experienced some difficulty and received only partial funding. The university graciously contributed \$3000 which helped the symposium to maintain its traditional outstanding reputation.

B. POLICY CHANGES

The department has put added emphasis on certain areas of applied mathematics. This has been reflected in the departmental curriculum offerings, its service courses, and its hiring practices.

C. NEW OR REVISED PROGRAMS

The department is currently reexamining its graduate program with a view towards making its graduating students more attractive to prospective employers.

D. PHYSICAL PLANT AND EQUIPMENT

The major physical change in Walden Hall has been the addition of an elevator to serve the handicapped. This is, of course, a boon to those who need such a facility. However, the prolonged period of installation caused substantial inconvenience and disruption of classes for the better part of a year and it was felt by many in the department that better planning could have shortened the installation time. While the addition of the elevator incurred some loss of space to the department, it did result in the relocation of the mathematics reading room and the faculty lounge and the addition of a new student lounge. As of this writing the department is awaiting an administration response to a November 1975 request for funds to furnish these areas.

E. STEPS TAKEN TO INCREASE OR UPGRADE STUDENT MAJORS

The upgrading of student majors is a continuing endeavor whose effect is primarily evolutionary thus making it difficult to point to any spectacular accomplishments in a reporting period. Students are currently advised to make themselves more marketable by broadening their educational background through interdisciplinary programs by taking courses in applied mathematics and related areas such as computer science and statistics.

II. RESEARCH ACTIVITIES

A. RESEARCH PROPOSALS

Of the eight research proposals presented to the National Science Foundation, three have been funded (\$42,200) and five are still pending (\$56,455). One NSF grant is continuing (\$22,200).

B. PUBLICATIONS

In the period January 1975-December 1975, 25 research papers were presented at local, national and international meetings; 35 research papers were published in recognized journals; four textbooks were published, 34 faculty members attended professional meetings. (See Vol. II.)

III. CRITICAL ANALYSIS AND RECOMMENDATIONS

The depression which seems to have struck many academic areas nationwide has had an impact on the Department of Mathematics, for the number and, to some extent, the quality of our applicants for both graduate and undergraduate study has either declined or remained steady over the past two or three years. Moreover, the amount of federal support available for mathematics has also declined to the extent that only very few outstanding mathematicians in the country are having their proposals funded by the National Science Foundation and other agencies. On the other hand, the need for training in mathematics has continued to increase. The student credit hour production of the department is up substantially over previous years and this, of course, implies a marked increase in the enrollment in our service courses. Reevaluation of the department's goals and role in the university in light of these facts is a continuing process. The department is expanding the course offerings in applied mathematics and trying to accommodate the content of existing courses in order to better serve what seem to be the goals of the institution. In spite of reduced federal support, the research production of the faculty members in the department, and the department's national reputation continue to be quite high. This is undoubtedly due to the fact that the local mathematical environment is conducive to the studying and doing of mathematics and to the fact that we are still able to recruit new faculty members from the top 10 percent of graduating Ph.D.'s in the nation.

The department still views the universitywide duplication of effort in mathematics and statistics-type course offerings a serious problem. In addition to being an ill-advised waste of money, this kind of thing leads to competition between departments with the result that students ultimately suffer, for a popularity contest between departments can lead only to a reduction in standards.

I. PERSONNEL ACTIVITIES

A. PROFESSIONAL SERVICE OF THE FACULTY

D. M. Arnold

Chairman, Arts and Sciences Long Range Planning Committee
Chairman, Departmental Biology, Business and Social Science
Committee.

Referee, Proceedings of the American Mathematical Society;
Transactions of the American Mathematical Society; Pacific
Journal of Mathematics; Journal of Algebra; Rocky Mountain
Journal of Mathematics.

R. J. Bagby

N.M.S.U. representative, Rocky Mountain Mathematics Consortium.
Reviewer, Mathematical Reviews.

Grader, William Lowell Putnam Mathematics Competition.

Member, College Committee for Improvement of Instruction and
Student Relations.

Secretary, Departmental Graduate Committee.

Chairman, Departmental Business, Biology and Social Science
Committee; Tenure and Promotion to Associate Professor
Committee.

Member, Departmental Graduate Student Diagnostic Interviews
Committee.

H. Cheng

Advisor, University Chinese Student Association.

Member, Departmental Undergraduate Committee; Chemistry,
Engineering and Physics Committee; Comprehensive Examination
Committee.

J. D. DePree

Reviewer, Mathematical Reviews, Zentralblatt für Mathematik.
Referee and member of Board of Governors, Pacific Journal
of Mathematics.

Referee, Journal of the Indiana Mathematical Society.

G. S. Garfinkel

Reviewer, Zentralblatt für Mathematik; Mathematical Reviews.

E. D. Gaughan

Workshop Chairman, National Council of Teachers of Mathematics
El Paso Name-of-Site meeting.

Chairman, Philosophy Review Committee.

Referee, Brooks/Cole Publishing Company; Scott/Foresman
Publishing Company.

Director, Mathematics Learning Center.

Advisor, Arts and Sciences Advising Center.

Member, Departmental Biology, Business and Social Science
Committee.

W. M. Krueger

Reviewer, Zentralblatt für Mathematik.
Member, University Appeals Board.
Member, Arts and Sciences Police Science Review Committee.
Member, PSL Scholarship Committee.
Chairman, Departmental Undergraduate Committee.
Member, Departmental Mathematics Education Committee; Tenure
and Promotion to Associate Committee; Holiday Symposium
Committee.

A. H. Kruse

Editor, Rocky Mountain Journal of Mathematics.
Reviewer, Mathematical Reviews; Zentralblatt für Mathematik.
Referee, Proceedings of the American Mathematical Society;
Transactions of the American Mathematical Society.
Alternate, Departmental Advisory Committee.

W. J. Liebert

Reviewer, Zentralblatt für Mathematik; Mathematical Reviews.

J. O. Loustaunau

Referee, Society for Industrial and Applied Mathematics.
President of Board of Directors, Las Cruces Boys' Club.
Member, College Planning Committee.

M. Mandelker

Referee, Pacific Journal of Mathematics; Proceedings of the
American Mathematical Society; Rocky Mountain Journal of
Mathematics; Canadian Journal of Mathematics; National
Science Foundation; W. A. Benjamin Incorporated.
Reviewer, Mathematical Reviews; Zentralblatt für Mathematik;
Canadian Mathematical Bulletin.
External examiner, Carleton University, Ottawa, Canada.

R. Mines

Reviewer, Mathematical Reviews.
Member, University Faculty Senate, Committee on Committees;
Faculty Affairs Committee.
Director, Putnam Examination Team.
Faculty sponsor, Pi Mu Epsilon.
Member, Departmental Advisory Committee, Undergraduate Committee;
Graduate Committee; Diagnostic Examination Committee;
Graduate Assistant Selection Committee.

I. E. Myers

Referee, Annals of Probability
Member, Departmental Statistics Committee.

K. L. Phillips

Member, Sigma Xi; Committee to Select Members.
Reviewer, Mathematical Reviews; Zentralblatt für Mathematik.
Referee, National Research Council.
Member, Departmental Library Committee; Chemistry, Engineering
and Physics Committee.

F. Richman

Referee, Proceedings of the American Mathematical Society.
Judge, Southern New Mexico Regional Science Fair.
Member, Government Review Committee.
Member, Graduate Council.
Faculty co-sponsor, NMSU Bridge Club.
Member, Departmental Graduate Committee; Advisory Committee;
Statistics Committee; Promotion to Full Professor Committee;
Undergraduate Committee; Teaching Assistant Selection
Committee.

G. S. Rogers

Reviewer, Cummings Publishers.
Advisor, Arts and Sciences Advising Center.
Member, Departmental Statistics Committee; Undergraduate
Advising.
Departmental coordinator, United Way.
Member, Experimental Statistics Review Committee; Computer
Science Review Committee.

C. W. Swartz

Referee, National Science Foundation research proposal.
Reviewer, Mathematical Reviews; Zentralblatt für Mathematik.
Member, NMSU Golf Team.
Member, Departmental Chemistry, Engineering and Physics
Committee.
Chairman, Department Graduate Committee.

J. D. Thomas

Faculty co-sponsor, NMSU Bridge Club.
Advisor, Alpha Tau Omega Fraternity.
Reviewer, Zentralblatt für Mathematik.
Member, Arts and Sciences Curriculum Committee; Computer
Advisory Group.
Chairman, Departmental Graduate Committee; Chemistry, Engineering
and Physics Committee.
Member, Departmental Advisory Committee; Applicant Screening
Committee; Undergraduate Advising.

R. H. Traxler

Chairman, Departmental Statistics Committee.
Member, Departmental Applicant Screening Committee.

I. E. Vance

Member, Commission on the Education of Teachers of Mathematics.
Evaluation Team Member, National Council for the Accreditation
of Teacher Education.
Consultant, National Assessment of Educational Progress.
Chairman, Community resource groups in Boston and Los Angeles
concerned with mathematics curriculum in elementary school
and the training of pre- and in-service teachers.
Education consultant, New Mexico NAACP.
Member, Departmental Mathematics Education Committee.
Contributing Editor, The Journal of Children's Mathematical
Behavior.
Reviewer, The Mathematics Teacher; Journal on Research in
Mathematics Education.
Chairman, Four-week Workshop at Institute for Teaching and
Learning, Spelman College, Atlanta, Georgia.
Director, High School Geometry Project involving about 500
students in 5 cities--El Paso, Texas; Old Westbury, New York;
Shaker Heights, Ohio; Bloomington, Minnesota; and Albuquerque,
New Mexico.

C. L. Walker

Faculty co-sponsor, Pi Mu Epsilon.
President, Phi Kappa Phi, local chapter.
President, NMSU Women Faculty.
Faculty sponsor, Mortar Board.
Referee, Journal of Algebra; Pacific Journal of Mathematics;
Rocky Mountain Journal of Mathematics; Archiv der Mathematik
(Basel); National Science Foundation.
Member, Music Review Committee.
Member, Arts and Science Council.
Chairman, Arts and Science Research Affairs Committee.
Member, Departmental Undergraduate Committee; Graduate
Committee; Promotion to Associate and Tenure Committees;
Coordinator, Departmental Undergraduate Advising.

E. A. Walker

Member, Committee for Undergraduate Programs in Mathematics
Consultant Bureau.
Reviewer, Mathematical Reviews; Zentralblatt für Mathematik.
Referee, Transactions of the American Mathematical Society;
Pacific Journal of Mathematics; Rocky Mountain Journal of
Mathematics; Journal of Algebra; Journal of the Australian
Mathematical Society; National Science Foundation.
Member, English Review Committee.
Member, Organizing Committee for the History of Algebra
Conference held at UTEP, November 1975.
Chairman, Departmental Colloquium.
Member, Departmental Statistics Committee; Biology, Business
and Social Science Committee.

F. D. Williams

Chairman and member, Arts and Sciences Faculty Affairs Committee.
Member, Arts and Sciences College Council.
Member, Police Science Review Committee.
Faculty sponsor, Sigma Alpha Epsilon.
Chairman and member, Departmental Chemistry, Engineering and
Physics Committee.
Member, Departmental Graduate Committee.

R. J. Wisner

Chairman, Program Committee, El Paso Name-of-Site Meeting of
the National Council of Teachers of Mathematics.
Chairman, Holiday Symposium Committee
Member, NMSU University Committee on Teaching.
Member, Program Committee, American Mathematical Heritage
Symposium on the History of Algebra held at UTEP, November
1975.
Chairman, Departmental Mathematics Education Committee.
Pilot school consultant, Mathematics Around Us, Gadsden and
Los Alamos.

J. D. Zund

Reviewer, Mathematical Reviews; Zentralblatt für Mathematik.
Referee, Rocky Mountain Journal of Mathematics; Journal of
Mathematical Physics; Journal of the Australian Mathematical
Society; Annali di Matematica Pura ed Applicata.
Member, Department Advisory Committee; Library Committee;
Applicant Screening Committee.

B. PROFESSIONAL MEETINGS ATTENDED BY FACULTY

G. Akst

*American Mathematical Society, Washington, D. C.

D. M. Arnold

National Council of Teachers of Mathematics, Denver, Colorado.
†Holiday Symposium, Las Cruces, New Mexico.

R. J. Bagby

*American Mathematical Society, Washington, D. C.
†Board of Directors meeting, Rocky Mountain Mathematics
Consortium, Washington, D. C.
†American Mathematical Society, St. Louis, Missouri.

H. Cheng

*American Mathematical Society, Washington, D. C.

J. E. Daly

American Mathematical Society, 723rd Regional Meeting,
St. Louis, Missouri.

T. P. Dence

*American Mathematical Society, Washington, D. C.

*Mathematical Association of America, Glendale, Arizona.

J. D. DePree

Board of Governors of the Pacific Journal of Mathematics,
Los Angeles, California.

†Holiday Symposium, Las Cruces, New Mexico.

G. S. Garfinkel

†American Mathematical Society, Washington, D. C.

†American Mathematical Society, St. Louis, Missouri.

†Ring Theory Conference, Kent, Ohio.

*Conference of Picard and Brauer Groups of Rings, Evanston, Ohio.

†Holiday Symposium, Las Cruces, New Mexico.

E. D. Gaughan

†Holiday Symposium, Las Cruces, New Mexico

†Greater El Paso Teachers of Mathematics, El Paso, Texas.

*National Council of Teachers of Mathematics, Denver, Colorado.

J. B. Giever

†Holiday Symposium, Las Cruces, New Mexico.

C. W. Henson

†Abraham Robinson Memorial Conference, New Haven, Connecticut.

*American Mathematical Society, Washington, D. C.

*Association for Symbolic Logic, Chicago, Illinois.

D. J. Johnson

†American Mathematical Society/Mathematical Association of
America, Washington, D. C.

†Conference on the Theory of Approximation, Calgary, Canada.

D. G. Johnson

*National Council of Teachers of Mathematics, Denver, Colorado.

*American Mathematical Society/Mathematical Association of
America, Washington, D. C.

†Greater El Paso Council of Teachers of Mathematics, El Paso,
Texas.

W. H. Julian

†Holiday Symposium, Las Cruces, New Mexico.

J. E. Kist

†American Mathematical Society, Kalamazoo, Michigan.

R. A. Knoebel

- †Holiday Symposium, Las Cruces, New Mexico.
- *Mathematical Association of America, Glendale, Arizona.
- †Sixth International Conference on High Energy Physics and Nuclear Structure, Santa Fe, New Mexico.
- *American Mathematical Society, Kalamazoo, Michigan
- †Symposium on Nonstandard Analysis, Albuquerque, New Mexico.

W. M. Krueger

- †History of Algebra Conference, El Paso, Texas.
- †Holiday Symposium, Las Cruces, New Mexico.

A. H. Kruse

- †Holiday Symposium, Las Cruces, New Mexico.

D. C. McMahon

- †American Mathematical Society, Washington, D. C.

R. Mines

- †History of Algebra Conference, El Paso, Texas.
- *American Mathematical Society, Washington, D. C.
- *Mathematical Association of America, Glendale, Arizona.
- †Holiday Symposium, Las Cruces, New Mexico.

J. W. Pendergrass

- *American Mathematical Society, Washington, D. C.

K. L. Phillips

- *American Mathematical Society, St. Louis, Missouri.
- *American Mathematical Society, Washington, D. C.

F. Richman

- †Holiday Symposium, Las Cruces, New Mexico.
- †Mathematical Association of American, Glendale, Arizona.

G. S. Rogers

- *Mathematical Association of America, Washington, D. C.
- †Holiday Symposium, Las Cruces, New Mexico.

C. W. Swartz

- †Holiday Symposium, Las Cruces, New Mexico.

W. E. Terry

- *Infinite Diemensional Topology Conference, Gilford College Greensboro, North Carolina.

J. D. Thomas

- †Holiday Symposium, Las Cruces, New Mexico.
- †Association for Computing Machinery, El Paso, Texas.
- †Conference on Quadrature Algorithms, Los Alamos, New Mexico.

I. E. Vance

- †Arizona State Mathematics Conference, Tempe, Arizona.
- †American Mathematical Society/Mathematical Association of America, Washington, D. C.
- †Association of Elementary School Principles Meeting, Minneapolis, Minnesota.
- †National Council of Teachers of Mathematics, Denver, Colorado.
- †Northwest Mathematics Conference, Eugene, Oregon.

C. L. Walker

- †Holiday Symposium, Las Cruces, New Mexico.
- †History of Algebra Conference, El Paso, Texas.

E. A. Walker

- †Holiday Symposium, Las Cruces, New Mexico.
- †History of Algebra Conference, El Paso, Texas.

J. Werth

- *American Mathematical Society, Washington, D. C.

F. D. Williams

- *American Mathematical Society, New York, New York.
- †Institute for Advanced Study -- Topology Colloquia, Princeton, New Jersey.
- †Holiday Symposium, Las Cruces, New Mexico.

R. J. Wisner

- Four Corners Council of Teachers of Mathematics, Farmington, New Mexico.
- †North Texas Council of Teachers of Mathematics, Denton, Texas.
- †National Council of Teachers of Mathematics, Denver, Colorado.
- †Colorado Council of Teachers of Mathematics, Pueblo, Colorado.
- †California Mathematics Council-Central Section, Fresno, California.
- *National Council of Teachers of Mathematics, Madison, Wisconsin.
- *California Mathematics Council-Southern Section, Anaheim, California.
- †22nd Annual Conference for the Advancement of Mathematics Teaching, Austin, Texas.
- †Holiday Symposium, Las Cruces, New Mexico.

D. L. Young

- *Institute of Mathematical Statistics Central Regional Meeting, St. Paul, Minnesota.
- *National Council of Teachers of Mathematics, Denver, Colorado.

*Partial support from state funds.
†No support from state funds.

II. SCHOLARSHIPS AND FELLOWSHIPS

Undergraduate

Physical Science Laboratory for incoming freshmen, \$500 . . . 4

Graduate

Physical Science Laboratory graduate fellowship, 1
awarded to Yonina Cooper.

III. GRANTS AND PROPOSALS

	Grants Funded		Grants Pending	
	Agency	Value	Agency	Value
Arnold, D.			NSF	\$10,000
Bagby, R.			NSF	6,000
Garfinkel, G. (with Akst, G.)			NSF	13,455
Henson, C.	NSF	\$ 7,000		
Johnson, D.J.			NSF	16,000
Phillips, K.			NSF	11,000
Walker, E. (with Liebert, W., Mines, R., Richman, R., Walker, C.)	NSF ^a	22,000		
Walker, E. (with Arnold, D., Richman, F., Walker, C.)	NSF ^b	26,200		
Wisner, R.	NSF	9,000		

^a Continuing grant. \$89,400 cumulative.

^b First year continuing grant.

IV. PUBLICATIONS

Akst, G., " L^1 -Algebras on Semigroups", Illinois J. Math., 19
454-466 (1975).

Akst, G. and Dence, T., "Idempotent endomorphisms in standard
threads", 11 no. 1, 14-21 (1975).

Arnold, D., Vinsonhaler and Wickless, W., "Quasi-pure projective
and injective torsion free abelian groups", Rocky Mountain
J. Math., (1975).

Arnold, D., "Endomorphism rings and direct sums of torsion free
abelian groups", Trans. Amer. Math. Soc., (1975).

Arnold, D. and Murley, C., "Abelian groups preserving direct
sums", Pacific J. Math., (1975).

Bagby, R., "An extended inequality for the maximal function",
Proc. Amer. Math. Soc., 48, no. 2 (1975).

- Bagby, R. and Swartz, C., "Projective tensor products of \mathbb{k} -valued measures", *Mat. Casopis* 25, no. 3 (1975).
- DePree, J. and Klein, H., "Characterizations of collectively compact sets of linear operators", *Pac. J. Math.*, 55, no. 1, 45-54 (1974).
- DePree, J. and Klein, H., "Semi-groups and collectively compact sets of linear operators", *Pac. J. Math.*, 55, no. 1, 55-63 (1974).
- Garfinkel, G., "A torsion version of the Chase-Rosenberg exact sequence", *Duke Math. J.*, 42, 195-210 (1975).
- Garfinkel, G., Childs, L. and Orzech, M., "On the Brauer group and factoriality of normal domains", *J. Pure and Applied Algebra*, 6, 111-123 (1975).
- Gaughan, E., *Introduction to Analysis*, (revised), Brooks/Cole Publishing Company, (1975), (with a 1976 copyright).
- Henson, C., "The monad system of the finest compatible uniform structure", *Proc. Amer. Math. Soc.*, 51, 163-170 (1975).
- Johnson, D. J., "On the nontriviality of restricted range polynomial approximation", *SIAM J. Numer. Anal.*, 12 183-187 (1975).
- Johnson, D. J., "The trigonometric Hermite-Birkhoff interpolation problem", *Trans. Amer. Math. Soc.*, 212, 365-374 (1975).
- Julian, W., "The constructive Jordan curve theorem", *Rocky Mountain J. Math.*, 5, no. 2, 225-236 (1975).
- Kist, J., Review, "Representation of algebras by continuous sections", *Bull. Amer. Math. Soc.*, 78, 291-373 (1972), *Math. Reviews*, 50, 57-58 (1975).
- Knoebel, R., "A comment on Balbes' representation theorem for quasi-distributive lattices", *Fundamenta Mathematicae*, 90, 265-266 (1975).
- Knoebel, R., "Maximal sets of compatible threshold functions", *Amer. Math. Soc. Notices*, 22:5, A-599 (1975).
- Knoebel, R., "A simplification of the functional completeness proof of Quackenbush and Sierpinski", *Algebra Universalis*, 4:1, 133-134 (1974).
- Knoebel, R., "Congruence-preserving functions in quasiprimal varieties", *Algebra Universalis*, 4:3, 287-288 (1974).
- Kruse, A., "Some results on partitions and cartesian products in the absence of the axiom of choice", *Zeitschrift für mathematische Logik und Grundlage der Mathematik*, (1975).
- Mines, R., Berg, G., Julian, W. and Richman, F., "The constructive Jordan curve theorem", 5, no. 2, 225-236 (1975).
- Rogers, G. and Young, D., "Some likelihood ratio tests when a normal covariance matrix has certain reducible linear structures", *Comm. Stat.*, 4, 519-535 (1975).
- Swartz, C., "A generalization of a theorem of Duchon on products of vector measures", *J. Math. Anal. Appl.*, 51, 621-628 (1975).

- Swartz, C., "Translation invariant linear operators and generalized functions", Czech. Math. J., 25, 202-213 (1975).
- Swartz, C. and Kitchens, L., "Convergence in the dual of certain $K\{M_p\}$ spaces", Colloq. Math., 30, 149-155 (1974).
- Swartz, C., "Products of vector measures", Mat. Casopis, 24, 289-299 (1974).
- Williams, F., "An example for homotopy commutativity of H-spaces", J. Austral. Math. Soc., XIX (Ser. A) Part 3, 309-311 (1975).
- Vance, I., Mathematics Around Us, Junior High School Mathematics Series, Scott, Foresman and Company, (1975) Co-author.
- Vance, E., "Using homogeneous coordinate", OCTM Monograph, 1-7 (1975).
- Walker, C., "Local quasi-isomorphisms of torsion-free abelian groups", Illinois J. Math., 18, 537-551 (1974).
- Walker, E. and Legg, M., "An algebraic treatment of algebraically compact groups", Rocky Mountain J. Math., 5, no. 2, 291-299 (1975).
- Wisner, R. J., Mathematics Around Us, Grade 7, Student Ed., viii-392, Scott, Foresman and Company (1975) Co-author.
- Wisner, R. J., Mathematics Around Us, Grade 7, Teacher Ed., Scott, Foresman and Company, 435 pp. (1975), Co-author.
- Wisner, R. J., Mathematics Around Us, Grade 8, Student Ed., Scott, Foresman and Company, viii-392 (1975) Co-author.
- Wisner, R. J., Mathematics Around Us, Grade 8, Teacher Ed., Scott, Foresman and Company, 435 pp., (1975), Co-author.
- Zund, J. and Harris, R., "A family of algebraically general exact solutions of Einstein's source-free field equations", Tensor N. S. 29, 103-106 (1975).
- Zund, J. and Harris, R., "Some Bel-Petrov type III solutions of the Einstein equations", Tensor N. S., 29 (1975).
- Zund, J., "The theory of the Lanczos spinor," Ann. Mat. Pura. Appl. Ser. IV, 104, 239-268 (1975).

V. RESEARCH PAPERS PRESENTED AT PROFESSIONAL MEETINGS

- Akst, G., "Linear projection operators on semigroups," Eighty-First Annual Meeting of the American Mathematical Society, Washington, D.C.
- Bagby, R., "Lipschitz spaces and Fourier transforms on Lorentz spaces," special session on harmonic analysis at 723rd Regional Meeting of the American Mathematical Society, St. Louis, Missouri.
- Daly, J., "The invalidity of the Calderon-Zygmund inequality for singular integrals over local fields," 723rd Regional Meeting of the American Mathematical Society, St. Louis, Mo.
- Garfinkel, G., "The Chase-Rosenberg-Zelinski Sequences," Conference of Picard and Brauer Groups of Rings, Evanston, Illinois.

- Henson, C., "Nonstandard Hulls of Banach spaces," invited lecture at the Abraham Robinson Memorial Conference, New Haven, Connecticut.
- Johnson, D. J., "RRAS approximation of differentiable functions," Conference on the Theory of Approximation, Calgary, Canada.
- Knoebel, R., "Axiomatics of Categories," Annual meeting of the Southwestern Section, Mathematical Association of America, Glendale, Arizona.
- Knoebel, R., "Inversion Formulae," Twelfth Holiday Symposium, Las Cruces, New Mexico.
- Knoebel, R., "Maximal Sets of Compatible Threshold Functions," Seventy-fifth Summer Meeting of the American Mathematical Society, Kalamazoo, Michigan.
- McMahon, D., "On the connectedness of homomorphisms in topological dynamics," invited talk at the special session of the American Mathematical Society, Washington, D.C.
- Mines, R., "There is an effective method for constructing a basis for the units in an algebraic number field," American Mathematical Society, Washington, D.C.
- Mines, R., "Kronecker's Theorem Revisited," Southwestern Section of the Mathematical Association of America, Glendale, Arizona.
- Myers, L. E., "The modification of facial grimaces associated with cleft palate through the application of operant conditioning procedures," results presented by Dr. Raymond Massengill at American Medical Association, Dallas, Texas.
- Phillips, K. L., "Local Field Singular Integrals with Odd Kernel," American Mathematical Society, St. Louis, Missouri.
- Richman, F., "What's a Field?," Mathematical Association of America, Glendale, Arizona.
- Vance, I. E., "An elementary mathematics program drawing upon the arts, sciences, and technology and using television and hands-on materials," Arizona State Mathematics Conference, Tempe, Arizona; Association of Elementary School Principals, Minneapolis, Minnesota; National Council of Teachers of Mathematics, Denver, Colorado.
- Vance, I. E., "Activities which relate geometry to the real world," Northwest Mathematics Conference, Eugene, Oregon.
- Wisner, R. J., "Special Partitions," Four Corners Council of Teachers of Mathematics, Farmington, New Mexico; National Council of Teachers of Mathematics, Denver, Colorado.
- Wisner, R. J., "How Big is Space?," Four Corners Council of Teachers of Mathematics, Farmington, New Mexico; North Texas Council of Teachers of Mathematics, Denton, Texas; Colorado Council of Teachers of Mathematics, Pueblo, Colorado.
- Wisner, R. J., "Partial Partitions," Colorado Council of Teachers of Mathematics, Pueblo, Colorado; Twenty-second Annual Conference for the Advancement of Mathematics Teaching, Austin, Texas.

- Wisner, R. J., "The Spinoffs of Markoff," California Mathematics Council - Central Section, Fresno, California.
- Wisner, R. J., "Triangles with a Given Perimeter," National Council of Teachers of Mathematics, Madison, Wisconsin.
- Wisner, R. J., "The Magnetism of Markov," California Mathematics Council - Southern Section, Anaheim, California.
- Wisner, R. J., "Games with Numbers," Annual Conference for the Advancement of Mathematics Teaching, Austin, Texas.
- Wisner, R. J., "Palindromic Play," Annual Conference for the Advancement of Mathematics Teaching, Austin, Texas.