

- A. GOAL: Strive to maintain continued excellence in research and professional activities. (Continuing)
1. Objective: Provide faculty members who are actively involved in mathematical research with the time, encouragement, and support services required for their research. (Accomplished; Continuing)
 2. Objective: Sponsor an active program of colloquia to provide indepth contact with experts in various research areas. (Accomplished; Continuing)
 3. Objective: Encourage and support research seminars, including interdepartmental seminars, to explore areas of applications of mathematics. (Accomplished; Continuing)
 4. Objective: Support the need for computer equipment to be used by members of the faculty in mathematical research, including maintaining departmental equipment and seeking funds for additional acquisitions as needed. (Continuing)
 5. Objective: Request new faculty positions so that active research faculty can once again be given appropriate time for research activities without slighting the teaching responsibilities of the department. (Continuing)
 6. Objective: Support the goals of the Computer Research Laboratory by recruiting high quality research mathematicians for joint appointments with mathematical sciences and the Computer Research Laboratory. (New)
- B. GOAL: Work to develop and strengthen the graduate program in mathematics. (Continuing)
1. Objective: The graduate committee of the department plans continued extensive regional, national, and international advertising to attract qualified applicants to the graduate program in mathematics. (Accomplished; Continuing)
 2. Objective: Maintain communication with mathematicians at White Sands, and continue to offer sequences of courses at appropriate times to attract these potential students. (Accomplished; Continuing)
 3. Objective: Develop master's programs in pure mathematics, numerical analysis, operations research, applied statistics, mathematical statistics, and mathematics education. The graduate committee will explore the possibility of a master's program with an emphasis in mathematical computer science. (Continuing)

4. Objective: The faculty will support the doctoral programs in mathematics and statistics, even though this will in some cases result in a teaching load above normal responsibility. (Continuing)
 5. Objective: Maintain close ties with the Department of Computer Science, supporting its new doctoral program, as well as its master's and undergraduate programs. (Accomplished; Continuing)
 6. Objective: Offer service courses in mathematics in support of graduate programs in science and engineering, and work to attract more of these students into appropriate mathematics courses. (Accomplished; Continuing)
 7. Objective: Provide graduate training in the use of state-of-the-art computer technology in mathematical applications. (Continuing)
 8. Objective: Maintain the program of supervision for graduate assistants teaching lecture sections. (Accomplished; Continuing)
 9. Objective: Hire visiting faculty primarily on the basis of their potential to further the graduate and research programs, and to teach mathematics effectively. (Continuing)
 10. Objective: Request new faculty positions to help develop the graduate programs, particularly those in numerical analysis, statistics, and applied mathematics. (Continuing)
- C. GOAL: Work to strengthen the programs in mathematics and statistics for undergraduate majors and minors. (Continuing)
1. Objective: Work with the deans of arts and sciences, engineering, and education to develop ways of obtaining more complete and timely reports on mathematics majors, including second majors and students planning mathematics as a teaching field, in order to communicate more effectively with students. (Continuing)
 2. Objective: Mail information about New Mexico State University mathematics programs to students and high schools in New Mexico and El Paso. The undergraduate committee will consult with the staff in the Office of Admissions to improve the recruitment efforts of the department. (Continuing)
 3. Objective: The undergraduate committee will study the mathematics curriculum with a view toward responding to the

needs of mathematics majors and minors, as well as attracting additional undergraduate mathematics majors. (Continuing)

4. Objective: Seek support for expanded computer clusters on campus to meet the needs of students majoring in mathematics. (Continuing)

D. GOAL: Provide the best possible program of service courses. (Continuing)

1. Objective: Reevaluate the undergraduate mathematics curriculum, keeping in mind the needs of the students from all colleges. Increasing emphasis will be placed on enforcement of placement guidelines and better advisement of students who may be marginally prepared for their required courses. (Revised; Continuing)
2. Objective: Give a mathematics placement examination to new students, a program begun in 1979, and continue to evaluate the effectiveness of this placement program. (Accomplished; Revised; Continuing)
3. Objective: Develop the program of advising and placement for students in lower-division courses, taking advantage of the individually-paced remedial and precalculus courses which are available for students to drop back into during a semester. (Accomplished; Continuing)
4. Objective: Cooperate in the implementation of the basic skills requirement in mathematics, which is in effect for students entering summer 1980 or later. This will include administering the NMSU Basic Skills Examination in Mathematics at least two times each semester. (Continuing)
5. Objective: Development and use of microcomputer based learning materials, the work sponsored by the interdepartmental National Science Foundation CAUSE grant awarded to members of the faculty in mathematics and computer science. (Continuing)
6. Objective: Begin extensive use of microcomputers by students in several undergraduate courses, including courses in finite mathematics and numerical analysis. (Continuing)
7. Objective: Support the university's request for a new building for the Departments of Mathematical Sciences, Computer Science, and Psychology, which will include space and equipment for both development and implementation of computer-based instruction, computer-equipped classrooms for students of mathematics, and space and equipment for a new Mathematics Learning Center. (Continuing)

8. Objective: Request new faculty positions to better serve the mathematical needs of undergraduate students, many of whom, under present conditions, can be accommodated only in large or very large classes. (Continuing)

I. GENERAL DEVELOPMENTS

A. PERSONNEL CHANGES AND ACTIVITIES

R. Arthur Knoebel was officially informed by The Mathematical Association of America that he will be awarded the Chauvenet Prize in January 1984, for his paper "Exponentials Reiterated," which appeared in the American Mathematical Monthly in 1981. The Chauvenet Prize is awarded annually for a noteworthy expository paper such as comes within the range of profitable reading for members of the association. The prize includes an award of \$500 and a certificate. The purpose of the prize is to stimulate the writing of expository and survey articles.

Keith Phillips and William Julian were on sabbatical leave during spring semester. Keith Phillips was doing research in Fourier analysis and group representations at the University of Colorado at Boulder. William Julian was doing research in constructive mathematics in Boulder, Colorado (where he and Keith Phillips conferred on a research project), San Jose and Pasadena, California, and Las Cruces. Fred Richman and Joseph Zund were on sabbatical leave during fall semester. Fred Richman was visiting the Institute for Defense Analysis at Princeton, doing applied algebra and research in Abelian group theory, and Joseph Zund was doing research in geometry, including classical algebraic geometry and theoretical geodesy, at the University of California at Los Angeles.

Barry MacKichan was on leave spring semester, and Roger Hunter and Mark Mandelkern were on leave fall semester. Wim Ruitenburg was a visiting assistant professor spring and fall semesters. James Daly was a visiting assistant professor fall semester, on leave from College of the Redwoods. Otto Mutzbauer was a visitor in the department during spring semester, and Douglas Bridges was a visitor in the department during fall semester. Carlton Evans was a visiting instructor during spring semester.

Hung Nguyen was promoted to associate professor, effective fall semester. Kathleen Berver was appointed, fall semester, as college assistant professor. Margaret Scott was a new college instructor spring semester, and Norma James, Joanne Korsmo, and Jeannine Vigerust were new college instructors fall semester.

Seventeen research proposals were submitted to State or Federal agencies by 13 faculty members, 9 new and continuing, proposals (8 faculty members) were funded in 1983 for a total of \$423,335. Eight new and continuing proposals (10 faculty

members) were pending at the end of 1983 for a total of \$729,930.

In 1983, 18 members of the faculty had 35 research papers published in professional journals or conference proceedings. In addition, 24 faculty members attended one or more professional meetings and presented 30 research papers. Four faculty members presented five colloquia at other universities.

During 1983 the department held 25 colloquia, with 13 presented by local faculty and students and 12 by invited speakers. Research seminars included algebra, abelian group theory, algebraic topology, constructive mathematics, group representations, harmonic analysis, and statistics.

The New Mexico State University Putnam Team, undergraduate students Tim Cartlidge, Bryan Gioannini and James Brewer, took the National Putnam Examination in mathematics fall semester. The team tied for 89th place out of 345 institutions entered. Tim Cartlidge tied for 385th among 2055 contestants. During spring semester, the department employed 19 Crimson Scholars, majoring in mathematics or a related area, as classroom assistants or as computer operators or programmers. In the fall semester, the department again employed 19 Crimson Scholars.

In 1983, 3 students received the Ph.D. in mathematics, 5 students received the Master of Science in mathematics, 12 students received the Bachelor of Science in mathematics, and 16 students graduated with an undergraduate minor in mathematics.

B. PHYSICAL PLANT

The department was awarded a major item of new equipment during 1983, a VAX 11/750 computer, by the National Science Foundation, in response to a Scientific Computing Research Equipment for the Mathematical Sciences (SCREMS) proposal submitted by Roger Hunter and Elbert Walker. A faculty office and a seminar room in Walden Hall were remodeled extensively to accommodate the VAX and its peripherals. The VAX, which will be fully operational in early 1984, will be used by faculty and graduate students doing research in mathematics.

C. STEPS TAKEN TO UPGRADE CURRICULUM

The department went to the Academic Deans' Council for support for the mathematics placement program. The

department felt a strong need for the placement exam program to be extended to all entering students and for stricter enforcement of the placement guidelines for all entering and continuing students. In response, the council passed the following resolutions in the summer of 1983 to be effective immediately.

Procedures will be established by the colleges for enforcement of course prerequisites. Exceptions to the requirement of course prerequisites will require approval of the course instructor and department head.

The individual colleges will take immediate and specific action to ensure that their students adhere to the advising guidelines for interpreting the Mathematics Placement Exam scores.

The Academic Deans' Council also passed the following resolutions, to become effective with the 1984-85 Undergraduate Bulletin.

The requirement that the Mathematics Placement Examination be taken as a pre-condition to enrollment in all entry level MATH and STAT courses numbered 115 or higher will apply to all students who have not earned a grade of C or better in the stated prerequisite course.

Students will be admitted to MATH 102N only after successfully passing or testing out of MATH 100N. (New students in MATH 100N will be tested during the first week of class and placed at the beginning of MATH 100N or at an advanced point in MATH 100N or into MATH 102N.)

Department faculty (Roger Hunter, Warren Krueger and Barry MacKichan) have done extensive research and development of materials for computer aided instruction for undergraduate mathematics. A project to develop an interactive instructional program in trigonometry has been supported by a National Science Foundation Comprehensive Assistance for Undergraduate Science Education (CAUSE) grant. The materials which have been developed are used by students in the trigonometry course. Work on this project is continuing.

II. CRITICAL ANALYSIS AND RECOMMENDATIONS

Although some of the department faculty have been involved with computing for some time, the heavy involvement of so many of the faculty with computing is relatively new, and largely due to the availability of equipment purchased in recent years with the New

Mexico Bond Issue Funds for Scientific Equipment. The award in 1983 of a National Science Foundation instrumentation grant for the purchase of a VAX 11/750 for departmental research was strong evidence of national recognition for the high quality of the research of members of the department faculty involving applications of computing. The establishment by the State of New Mexico of the Computing Research Laboratory at New Mexico State University also provided support in 1983 for new directions of research in the department.

The installation in the department of the VAX gives a new emphasis to several areas of pure and applied research by department faculty and graduate students. The research projects described in the instrumentation proposal include: finite valuated Abelian p-groups (Roger Hunter, Fred Richman, Elbert Walker); design of VLSI chips (Arthur Knoebel); image processing and machine intelligence (Keith Phillips); reliability (Hung Nguyen, Gerald Rogers and Elbert Walker); and numerical analysis (Robin McLeod).

The mathematical sciences project with the Computing Research Laboratory, led by Keith Phillips, involves research and development of mathematical techniques for use in computer vision and for implementation in a broad-based computer vision system. A major objective of this project is the creation of a versatile state-of-the-art image processing and vision laboratory at New Mexico State University and White Sands Missile Range. The participation of research mathematicians in the projects of the Computing Research Laboratory is important to its success in attracting first rate computer research and development in New Mexico. The department will require several new positions to support computer vision and other Computing Research Laboratory projects over the next several years.

Other examples of mathematical sciences faculty research involving applications of computing are the American, Canadian, Australian, British Urban Games (ACABUG) project (Roger Hunter, Joaquin Loustaunau) which is being carried out in conjunction with personnel in computer science and at TRASANA at White Sands Missile Range, and a research project being carried out with faculty in mathematics and chemistry on questions of ligand binding models (Roger Hunter, John Thomas, and Elbert Walker).

To support research in the department, the addition of a full-time technician to supervise the maintenance of departmental software and computing equipment is vitally important, and additional money specifically for computer maintenance and support needs to be added to the budget. None of the bond issues or grants provided funds for supplies and maintenance for computer equipment.

Research in pure mathematics continues to be a major activity of the department. Currently there is high quality research being carried out in abelian groups, algebraic K-theory, algebraic topology, harmonic and functional analysis, mathematical statistics, as well as in some other areas. This research needs to be supported with additional faculty positions, both to provide research interaction and to relieve heavy teaching loads to give faculty adequate time to carry out mathematical research.

The teaching program in the department has suffered from a gradual erosion over the years in the student-faculty ratio. Class sizes have grown large enough to have a depressing effect on both faculty and students. The number of faculty needed to bring the department student/faculty ratio down to the university average is eighteen. Three new assistant professor positions each year for five years, along with three additional college instructor positions would accomplish this goal, assuming there is no significant increase in student credit hours during this period. In addition to new faculty positions, the student salary budget of the department for undergraduate classroom assistants and tutors should be made a line item in the budget rather than being supported from salary savings. It is a fundamental part of the instructional program, and the need is well established.

The department has outgrown the space provided for it by Walden Hall. The current university building proposal describes the need for additional space for mathematical sciences. A substantial amount of new computing equipment will also be needed in the new building. The building described in the proposal would accommodate computer equipped classrooms for students of mathematics and other specialized instructional space, including the Mathematics Learning Center. Vacated space in Walden Hall would be remodeled into office, laboratory and classroom space for mathematical sciences.

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I. PERSONNEL ACTIVITIES

(A. PROFESSIONAL SERVICE

D. M. Arnold

Member, American Mathematical Society.
Member, Mathematical Association of America.
Referee, Journal of Algebra.
Referee, Archiv der Mathematik.
Consultant, Diplom. students of University of Essen, Germany,
May-June 1983 (two).
Member, Department of Computer Science Promotion and Tenure
Committee.
Member, Department of Mathematical Sciences Advisory Committee.
Member, Department of Mathematical Sciences Undergraduate
Committee, spring.
Member, Department of Mathematical Sciences Undergraduate
Curriculum Committee, fall.
Member, College of Arts and Sciences, Premedical Advisory
Committee, fall.
Organizer, Abelian Group Theory Seminar, spring.
Dean's representative, doctoral committee, chemistry.
Chairman, doctoral committee, (one).
Course coordinator and faculty supervisor for graduate
assistants, MATH 191, fall.

R. J. Bagby

Member, American Mathematical Society.
Member, Mathematical Association of America.
Member, American Association of University Professors.
Reviewer, Mathematical Reviews.
Reviewer, Zentralblatt fur Mathematik.
Referee, Proceedings of the American Mathematical Society.
Referee, S.I.A.M. Journal of Mathematical Analysis.
Research consultant for Battelle Laboratories on a contract to
investigate the use of Fourier analysis in problems of
shape recognition, summer.
Member, College of Arts and Sciences Curriculum and Educational
Policies Committee.
Chairman, Department of Mathematical Sciences Promotion to
Professor Subcommittee.
Member, Department of Mathematical Sciences Undergraduate
Curriculum Committee, fall.
Member, panel to help the Educational Testing Service develop
tests for prospective teachers.
Member, panel to discuss professional publications for a
graduate English course in technical writing.
Organizer and participant, Harmonic Analysis Seminar.
Member, doctoral final oral examination committee, mathematics
(one).

Member, doctoral oral comprehensive examination committee
(one).
Member, master's examination committee, mathematics (four).
Member, master's examination committee, mechanical engineering
(one).

J. E. Daly

Member, American Mathematical Society.
Member, Mathematical Association of America.
Member, New Zealand Mathematical Society.
Reviewer, Mathematical Reviews.
Reviewer, Undergraduate Mathematics Applications Project.
Chairman, Department of Mathematics, College of the Redwoods,
Eureka, Calif.

J. D. DePree

Member, Board of Governors, Pacific Journal of Mathematics.
Referee, Pacific Journal of Mathematics.
Member, Department of Chemistry Promotion and Tenure Committee.
Member, College of Arts and Sciences Planning Committee.
Member, College of Arts and Sciences Bachelor of Individualized
Studies Committee.
Member, Committee to Study Transitional Retirement.
Alternate member, Faculty Senate Review Board of Faculty
Performance Evaluation, spring.
Course coordinator, and faculty supervisor for graduate
assistant, MATH 292, spring.

E. D. Gaughan

Member, National Council of Teachers of Mathematics.
Member, Greater El Paso Council of Teachers of Mathematics.
Member, Mathematical Association of America.
Secretary-Treasurer, Mathematical Association of America,
Southwestern Section.
Institutional representative, Mathematical Association of
America.
Advisor, College of Arts and Sciences Advising Center.
Reader/Consultant, high school precalculus book, Scott-Foresman
and Co., published in 1983.
Chairman, Department of Mathematical Sciences Undergraduate
Committee, spring.
Chairman, Department of Mathematical Sciences Undergraduate
Curriculum Committee, fall.
Chairman, Department of Mathematical Sciences Ad Hoc Calculus
Committee, spring and fall.
Member, Mathematics/Engineering Committee.
Member, University Appeals Board.
Member, committee to develop a preparedness brochure for high
school students, spring and fall.
Participant, reviewing committee for teacher preparedness
examination for Educational Testing Service.

Member, master's examination committee, physics (one).
Course coordinator and faculty supervisor for graduate assistants, MATH 125, 135, and 136, fall.
Course coordinator and faculty supervisor for graduate assistants, MATH 125, 135, 136, and 191, spring.

J. B. Giever

Member, American Mathematical Society.
Member, Mathematical Association.
Member, Association for Symbolic Logic.
Member, Department of Mathematical Sciences Advisory Committee.
Member, Department of Mathematical Sciences Committee for Written Comprehensive Examinations (logic).
Acting department head, Department of Mathematical Sciences, summer.

R. H. Hunter

Member, American Mathematical Society.
Member, Association for Computing Machinery.
Member, Australian Mathematical Society.
Member, Institute of Electrical and Electronics Engineers.
Member, Mathematical Association of America.
Referee, Australian Journal of Mathematics.
Referee, Pacific Journal of Mathematics.
Referee, Proceedings of the American Mathematical Society.
Referee, Rocky Mountain Journal of Mathematics.
Referee, Transactions of the American Mathematical Society.
Referee, National Science Foundation CAUSE proposals.
Referee, National Science Foundation research proposals.
Reviewer, Mathematical Reviews.
Chairman, Computer Advisory Committee, Department of Mathematical Sciences, spring.
Member, Advisory Committee, Department of Mathematical Sciences.
Member, Graduate Council.
Member, Computing Research Laboratory Planning Group.
Lecturer, "Computing and professionals," Launceston, Tasmania, December 1983.
Lecturer/Demonstrator, "The T3 word processing system," Los Alamos Scientific Laboratories, New Mexico.
Member, master's examination committee, computer science (two).
Member, doctoral final oral examination committee, mathematics (one).
Course coordinator and graduate assistant supervisor, MATH 180, spring.

N. F. James

Member, National Council of Teachers of Mathematics.

D. G. Johnson

Member, American Mathematical Society.

Member, Mathematical Association of America.
Member, National Council of Teachers of Mathematics.
Member, Association for Supervision and Curriculum Development.
Reviewer, textbook manuscripts for commercial publishers.
Consultant, University of Texas at El Paso Mathematics
Department pre-calculus program review. Gave invited talk
November 1983.
Director, Mathematics Learning Center.
Member, Retention Committee.
Member, Mathematics/Engineering Committee.
Member, Department of Mathematical Sciences Undergraduate
Committee, spring.
Ex officio member, Department of Mathematical Sciences Advisory
Committee.
Course coordinator, MATH 100N, 102N, 115, 185.

W. H. Julian

Member, American Mathematical Society.
Member, American Association for the Advancement of Science.
Member, Sigma Xi.
Reviewer, Mathematical Reviews.
Member, Department of Mathematical Sciences Undergraduate
Majors Committee, fall.
Department photographer, maintaining permanent records of
faculty members, staff, graduate assistants, and colloquium
visitors.

J. E. Kist

Contributing member, American Mathematical Society.
Member, Mathematical Association of America.
Fellow, American Association for the Advancement of Science.
Member, Sigma Xi.
Sustaining member, Phi Beta Kappa.
Reviewer, Mathematical Reviews.
Reviewer, Zentralblatt fur Mathematik.
Referee, Algebra Universalis.
Member, Department of Mathematical Sciences Promotion to
Professor Subcommittee.
Member, Department of Mathematical Sciences Graduate Studies
Committee, fall.
Member, Department of Mathematical Sciences Committee for
Written Comprehensive Examinations (real analysis).
Member, Department of Mathematical Sciences Committee for
Written Comprehensive Examinations (complex analysis).
Participant, Seminar on Categories, Sheaves and Logic, spring.
Member, master's examination committee, mathematics (one).
Member, doctoral final oral examination committee, mathematics
(one).
Course coordinator, MATH 392, spring.

R. A. Knoebel

Member, American Mathematical Society.
Member, Association for Computing Machinery.
Member, British Society for the History of Mathematics.
Member, Deutsche Mathematiker-Vereinigung.
Member, Institute of Electrical and Electronics Engineers.
Member, London Mathematical Society.
Member, Mathematical Association of America.
Member, New Mexico Academy of Science.
Member, Oesterreichische Mathematische Gesellschaft.
Member, Society for Industrial and Applied Mathematics.
Referee, The American Mathematical Monthly.
Chauvenet Prize, awarded by Mathematical Association of America for outstanding expository article.
Speaker and organizer, Theoretical Computer Science Seminar, spring.
Chairman, doctoral oral comprehensive examination committee, mathematics (one).
Member, Department of Mathematical Sciences Graduate Committee, spring.
Member, Department of Mathematical Sciences Committee for Written Comprehensive Examinations, (complex variables).
Member, doctoral final oral examination committee, mathematics (one).
Member, master's examination committee, computer science (one).
Member, doctoral oral comprehensive examination committee, civil engineering (one).
Member, doctoral oral comprehensive examination committee, electrical engineering (one).
Course coordinator and faculty supervisor for graduate assistants, MATH 142, fall.

S. L. Korsak

Member, National Council of Teachers of Mathematics.

W. M. Krueger

Member, American Mathematical Society.
Reviewer, Zentralblatt fur Mathematik.
Reviewer, software for computer based learning projects covering such topics as introductory physics, remedial algebra and trigonometry.
Reviewer, discrete mathematics text for Holden-Day Publishing.
Reviewer, business calculus text for Prindle, Weber, and Schmidt.
Member, College of Arts and Sciences Improvement of Instruction and Student Relations Committee.
Member, College of Arts and Sciences Grade Appeals Committee.
Member, Department of Mathematical Sciences Undergraduate Committee, spring.

Member, Department of Mathematical Sciences Undergraduate
Majors Committee, fall.
Member, Department of Mathematical Committee for Written
Comprehensive Examinations (topology).
Member, doctoral final oral examination committee, mathematics
(one).
Member, doctoral oral comprehensive examination committee,
mathematics (one).
Member, master's examination committee, computer science
(two).
Course coordinator, MATH 112, spring and fall.

A. H. Kruse

Member, Board of Directors, Rocky Mountain Journal of
Mathematics.
Referee, Rocky Mountain Journal of Mathematics.
Member, Department of Mathematical Sciences, Promotion to
Professor subcommittee.
Member, Department of Mathematical Sciences, Library Committee.
Member, Department of Mathematical Sciences Committee for
Written Comprehensive Examinations (logic).
Member, doctoral oral comprehensive examination committee,
mathematics (two).

D. S. Kurtz

Member, American Mathematical Society.
Member, Mathematical Association of America.
Referee, Proceedings of the American Mathematical Society.
Referee, Boletim da Sociedade Brasileira de Matematica.
Reviewer, Mathematical Reviews.
Wisner Award for 1983-1984.
Chairman, Department of Mathematical Sciences Computer
Advisory Committee, fall.
Member, Department of Mathematical Sciences Committee for
Written Comprehensive Examinations (real analysis).
Member, Department of Mathematical Sciences Computer Advisory
Committee, spring.
Coordinated computer equipment, computer purchasing and usage,
fall.
Member, doctoral comprehensive examination committee,
mathematics (one).
Course coordinator, MATH 392, fall.

J. O. Loustaunau

Member, American Mathematical Society.
Member, New Mexico Academy of Sciences.
Member, Department of Mathematical Sciences Committee for
Written Comprehensive Examinations (optimization).

Member, Department of Mathematical Sciences Calculus Text Selection Committee, fall.
Course coordinator, MATH 235.
Course coordinator and faculty supervisor for graduate assistants, MATH 192.

B. B. MacKichan

Member, Association for Computing Machinery.
Member, Department of Mathematical Sciences Computer Advisory Committee.
Member, doctoral final oral examination committee, computer science (one).
Member, master's examination committee, computer science (one).
Course coordinator and faculty supervisor for graduate assistants, MATH 180, fall.

M. Mandelkern

Member, American Mathematical Society.
Member, London Mathematical Society.
Referee, Notre Dame Journal of Symbolic Logic.
Reviewer, Mathematical Reviews.

R. J. Y. McLeod

Associate fellow, Institute of Mathematics and its Applications.
Member, International Association for Mathematics and Computers in Simulation.
Referee, Institute of Mathematics and its Applications, Journal of Numerical Analysis.
Referee, International Journal for Numerical Methods in Engineering.
Member, Department of Mathematical Sciences Graduate Committee, spring.
Member, Department of Mathematical Sciences Undergraduate Majors Committee, fall.
Lecturer (informal), to students at University of Southern Mississippi on applications of geometry in design.
Consultant (informal), in Department of Physics (summation formulae).
Consultant, on geometric modelling in ferrets' brains (British Medical Research Council).
Joint organizer (with T. Fay, University of Southern Mississippi), conference on computational geometry to be held in May 1985, in New Orleans, La.
Member, master's examination committee, mathematics (one).
Advisor, doctoral thesis, National Research Institute for Mathematical Sciences, Council for Scientific and Industrial Research, Pretoria, Republic of South Africa (one).

R. Mines

Member, American Mathematics Society.
Member, Mathematics Association of America.
Member, Deutschen Mathematiker Vereinigung.
Reviewer, Mathematical Reviews.
Member, Faculty Senate, spring and fall.
Vice chairman, Faculty Senate, fall.
Member, College of Arts and Sciences Faculty Affairs Committee.
Member, Department of Mathematical Sciences Committee for
Written Comprehensive Examinations (algebra).
Colloquium chairman, Department of Mathematical Sciences.
Member, master's examination committees, electrical
engineering (three).
Member, doctoral oral comprehensive examination committee,
mathematics (one).
Member, doctoral final oral examination committee, mathematics
(one).
Course coordinator, MATH 230, fall.

H. T. Nguyen

Member, Institute of Mathematical Statistics.
Member, American Mathematical Society.
Member, Societe Mathematique de France.
Member, International Program Committee, International
Federation of Automatic Control Symposium, Marseille,
France, July 1983.
Referee, Journal of the American Statistical Association.
Referee, Journal of Fuzzy Sets and Systems.
Reviewer, Mathematical Reviews.
Member, Department of Mathematical Sciences Graduate Studies
Committee, fall.
Participant and speaker, Joint Statistics Seminar (with
Department of Experimental Statistics).
Participant, Statistics Work Group, Department of
Mathematical Sciences.
Consultant activities: Collaborating with Dr. I. R. Goodman
of Naval Ocean Systems Center, San Diego, California, on
inference and rule based procedures in expert systems and
analysis of uncertainty in knowledge representation.
Member, master's examination committee, mathematics (one).
Course coordinator, STAT 371, spring.

D. J. Pengelley

Member, American Mathematical Society.
Member, Mathematical Association of America.
Member, Union of Concerned Scientists.
Member, Association for Women in Mathematics.
Member, Federation of American Scientists.

Member, Department of Mathematical Sciences Committee for
Written Comprehensive Examinations (topology).
Member, College of Arts and Sciences Ad Hoc Committee on the
Library.
Organizer, Topology Seminar, spring.
Speaker, lecture series in Topology Seminar, spring, summer,
fall.
Chairman, master's examination committee, mathematics (one).
Member, doctoral oral comprehensive examination committee,
mathematics (two).
Advised graduate student on preparation of paper "Computer
representation of radiation loads on plant leaves,"
presented at 1983 Summer Meeting of American Society
of Agricultural Engineers, Bozeman, Mont., June 1983.
Course coordinator and faculty supervisor for graduate
assistants, MATH 192.

K. L. Phillips

Member, American Mathematical Society.
Member, Mathematical Association of America.
Member, Sigma Xi.
Member, Phi Beta Kappa.
Referee, Rocky Mountain Journal of Mathematics.
Referee, IEEE Transactions of Pattern Analysis and Machine
Intelligence.
Editor, calculus books and manuscript on artificial
intelligence, W. H. Freeman & Co.
Coordinator, Library and Mathematics Reading Room for the
Department of Mathematical Sciences, fall.
Member, Advisory Committee for the Computing Research Laboratory
(CRL).
Chairman, Facilities Committee, Computing Research Laboratory.
Member, Ad hoc committee to submit proposal to ARO for
research/educational program at New Mexico State
University in artificial intelligence.
Visitor, Martin Marietta Corp., Denver, summer.
Visitor, Intel, BDM and Sandia, Albuquerque, September 1983.
Principal investigator, Computer Vision Project for Computing
Research Laboratory.
Chairman, doctoral final oral examination committee,
mathematics (one).
Chairman, doctoral committee, mathematics (two).
Member, doctoral comprehensive examination committee,
mechanical engineering (one).

F. Richman

Member, American Mathematical Society.
Member, Mathematical Association of America.
Member, Society for Industrial and Applied Mathematics.

Referee, National Science Foundation proposals (five).
Referee, Rocky Mountain Journal of Mathematics.
Referee, Houston Journal of Mathematics.
Reviewer, Mathematical Reviews.
Member, Committee to screen dissertations for the James H.
Davis Award.
Course coordinator, MATH 230, spring.

G. S. Rogers

Member, American Statistics Association.
Member, Mathematical Association of America.
Institutional representative, American Statistical Association.
Referee, proposal for National Research Council of Canada.
Referee, linear algebra books, Allyn Bacon, Inc.
Judge, Regional Science and Engineering Fair, March.
Advisor, Arts and Sciences Advising Center, spring, summer,
and fall.
Member, Department of Mathematical Sciences Undergraduate
Committee, spring.
Member, Department of Mathematical Sciences Undergraduate
Curriculum Committee, fall.
Coordinator and speaker, Joint Statistics Seminars (Department
of Mathematical Sciences/Department of Experimental
Statistics), spring.
Consultant, faculty and students from the Departments of Speech,
Experimental Statistics, Biology, Animal and Range Sciences,
Counseling and Educational Psychology, Curriculum and
Instruction, Educational Management and Development.
Chairman, master's examination committee, mathematics (one).
Course coordinator, STAT 251, spring and fall.

M. H. Scott

Member, National Council of Teachers of Mathematics.
Member, National Education Association.
Member, New Mexico Council of Teachers of Mathematics.
Member, Greater El Paso Teachers of Mathematics.
Member, Phi Delta Kappa.

C. C. Sherman

Member, American Mathematical Society.
Reviewer, two proposals for the National Science Foundation.
Member, Department of Mathematical Sciences Graduate Studies
Committee, fall.
Chairman, Department of Mathematical Sciences Tenure and
Promotion to Associate Professor Committee.
Participant, Sheaves, Logic and Topology Seminar.
Chairman, doctoral oral comprehensive examination committee,
mathematics (one).
Member, doctoral oral comprehensive examination committee,
mathematics (one).
Course coordinator, MATH 291, fall.

C. W. Swartz

Member, American Mathematical Society.
Member, Mathematical Association of America.
Member, Consortium for Mathematics and its Applications.
Institutional representative, Rocky Mountain Mathematics Consortium.
Reviewer, Mathematical Reviews.
Reviewer, Zentralblatt fur Mathematik.
Referee, Ph.D. thesis for The Flinders University of South Australia.
External evaluator: Promotion to professor, Department of Mathematics, University of Nebraska; Department of Experimental Statistics, New Mexico State University.
Chairman, Department of Mathematical Sciences Graduate Committee, spring.
Chairman, Department of Mathematical Sciences Graduate Studies and Graduate Recruiting Committees, fall.
Member, Department of Mathematical Sciences Tenure and Promotion to Associate Professor Subcommittee.
Member, Department of Mathematical Sciences Committee for Written Comprehensive Examinations (optimization).
Member, Department of Mathematical Sciences Ad Hoc Committee to Evaluate Calculus Text.
Participant, Harmonic Analysis Seminar, spring.
Graduate Dean's Representative, doctoral oral comprehensive examination, electrical engineering (one).
Member, doctoral final oral examination committee, mathematics (two).
Member, doctoral oral comprehensive examination committee, mathematics (one).
Member, master's examination committee, mathematics (two).

J. D. Thomas

Member, Mathematical Association of America.
Member, Society for Industrial and Applied Mathematics.
Chairman, Department of Mathematical Sciences Undergraduate Majors Committee, fall.
Chairman, doctoral final oral examination committee, mathematics (one).
Member, doctoral final oral examination committee, mathematics (one).
Member master's examination committee, mathematics (one).

I. E. Vance

Member, New Mexico Council of Teachers of Mathematics.
President-elect, New Mexico Council of Teachers of Mathematics.
Program chairman, 10th Annual New Mexico Math/Science Conference.

Chairman, Task Force on Equity in Mathematics.
Member, School Science and Mathematics Association, Inc.
Member, National Council of Supervisors of Mathematics.
Member, National Association of Mathematics Teachers.
Member, Mathematical Association of America.
Member, Greater El Paso Council of Teachers of Mathematics.
Referee, School Science and Mathematics.
Referee, Mathematics Teacher.
Reviewer, Proposals for National Institute of Education on
Mathematics Learning.
President, Phi Beta Sigma Fraternity, Inc., Theta Theta Sigma
Chapter (El Paso, Las Cruces area).
Organizer and tutor, Phi Beta Sigma-National Association for
the Advancement of Colored People Tutorial Program for
elementary and secondary students.
Consultant, Los Angeles Public Schools, Workshop for Teachers
and Students at George Washington Preparatory High School.
Consultant, Atlanta Public Schools, revising the high school
mathematics curriculum.
Guest lecturer, Eastwood Junior High School, Ysleta Public
Schools, taught five classes using geoboard.
Reader, Advance Placement Calculus Examination, Education
Testing Service.
Presentor, U.S. Senate Committee on the Budget, (The
National Math and Science Excellence in Education Act
of 1983).
Member, Department of Mathematical Sciences, Textbook
Committee, Math III.
Member, doctoral committee, education (one).

C. L. Walker

Member, American Mathematical Society.
Member, Association for Women in Mathematics.
Member, New Mexico Network for Women in Science and Engineering.
Member, Phi Kappa Phi.
Member, Pi Mu Epsilon.
Reviewer, Mathematical Reviews.
Ex officio member, Department of Mathematical Sciences Advisory
Committee.
Member, Department of Physics, Department Head Search
Committee, spring.
Acting graduate dean, May - August 1983.
Member, Academic Deans' Council (summer).
Member, Data Authority Committee (summer).
Dean's representative, doctoral oral comprehensive examination,
Interdisciplinary (one).
Dean's representative, master's examination committee,
education (one).
Member, doctoral final oral examination, mathematics (one).

E. A. Walker

- Member, Mathematical Association of America.
- Member, American Mathematical Society.
- Member, American Statistical Association.
- Member, Biometric Society.
- Member, Sigma Xi.
- Member, Phi Kappa Phi.
- Member, American Public Health Association.
- Member, Board of Editors, Communications in Algebra.
- Reviewer, Mathematical Reviews.
- Referee, Transactions of the American Mathematical Society.
- Referee, Proceedings of the American Mathematical Society.
- Referee, Journal of Algebra.
- Coorganizer, Conference on Abelian Groups, Oberwolfach, Germany, 1985.
- Evaluator, National Science Foundation Research Proposal (four).
- Evaluator, National Science Foundation Proposal for Research Conference.
- Evaluator, Department of Statistics, Colorado State University, Promotion to Full Professor Committee.
- Evaluator, Department of Mathematics, Oklahoma State University, Promotion to Full Professor Committee.
- Member, Science Advisory Council of Sam Houston State University.
- Member, Executive Committee of the Science Advisory Council of Sam Houston State University.
- Invited speaker, General Telephone and Electronic Laboratories, Waltham, Mass., April 1983.
- Member, James H. Davis Screening Committee, spring and fall.
- Member, University Research Council, spring and fall.
- Member, University Research Council Executive Committee, fall.
- Member, University Research Council Subcommittee on Research Computing Resources, fall.
- Member, University Research Council Subcommittee on Structure of Research Administration, fall.
- Member, Graduate Council (replacing Roger H. Hunter), fall.
- Member, University-Industry Coordinating Committee, spring.
- Member, College of Arts and Sciences Research Affairs Committee, spring.
- Member, Promotion and Tenure Committees, Department of Physics, fall.
- Member, Department of Mathematical Sciences Promotion to Associate Professor and Tenure Committee, spring and fall.
- Member, Department of Mathematical Sciences Graduate Committee, spring.
- Member, Department of Mathematical Sciences Graduate Recruiting Committee, fall.
- Member, Department of Mathematical Sciences Committee for Written Comprehensive Examinations (algebra).

Dean's representative, doctoral final oral examination committee, counseling and psychology (one).
Chairman, master's examination committee, mathematics (three).
Member, master's examination committee, mathematics (one).
Member, doctoral oral comprehensive examination committee, mathematics (one).

F. D. Williams

Member, American Mathematical Society.
Member, Association of Members of the Institute for Advanced Study.
Member, Phi Beta Kappa.
Member, Pi Mu Epsilon.
Member, College of Arts and Sciences Faculty Affairs Committee, spring.
Member, Department of Mathematical Sciences Undergraduate Majors Committee, fall.
Member, Department of Mathematical Sciences Advisory Committee, fall.
Advisor, Crimson Scholars, Department of Mathematical Sciences, spring and fall.
Faculty sponsor, New Mexico State University Water Polo Club.
Chief official, New Mexico State University home swimming meets.
Organizer and speaker, Algebraic Topology Seminar, spring and fall.
Member, doctoral comprehensive examination committee, mathematics (one).
Course coordinator, MATH 292, fall.

R. J. Wisner

Member, Southwestern Section, Mathematical Association of America.
Member, National Council of Teachers of Mathematics.
Member, Rio Grande Valley Council of Teachers of Mathematics.
Member, Greater El Paso Council of Teachers of Mathematics.
Member, School Science and Mathematics Association.
Member, Executive Committee of the Greater El Paso Council of Teachers of Mathematics.
Reporter, "What's Going On," Mathematics Teacher.
Editor, National Council of Teachers of Mathematics 1984 Yearbook.
President-elect, Greater El Paso Council of Teachers of Mathematics.
Participant, meeting on U.S. Navy Opportunities, San Diego, Calif., August 1983.
Consulting editor, Brooks/Cole Publishing Co.
Member, Teacher Education Committee.
Member, College of Arts and Sciences Recruiting Committee.

Member, College of Arts and Sciences Advisory Committee to
the College of Education.
Member, President's Associates.
Member, Department of Mathematical Sciences Ad Hoc Calculus
Committee.

J. D. Zund

Member, American Physical Society.
Member, Unione Matematica Italiana.
Member, London Mathematical Society.
Member, The Tensor Society.
Member, Seismological Society of America.
Referee, Physical Review Letters.
Referee, Journal of Mathematical Physics.
Referee, Annali di Matematica Pura ed Applicata.
Referee, Journal of the Australian Mathematical Society.
Reviewer, Mathematical Reviews.
Reviewer, Zentralblatt fur Mathematik.
Member, Department of Mathematical Sciences Ad Hoc Calculus
Committee, spring.
Course coordinator, MATH 291, spring.

B. PROFESSIONAL MEETINGS ATTENDED

D. M. Arnold

Group Theory Workshop, University of Freiburg, West Germany.

R. J. Bagby

American Mathematical Society Regional Meeting, Evanston, Ill.

J. D. Depree

American Mathematical Society Regional Meeting, Monterey,
Calif.

E. D. Gaughan

Mathematical Association of America Southwestern Section
Meeting, Socorro, N. Mex.
Greater El Paso Council of Teachers of Mathematics, Annual
Membership Meeting, El Paso, Tex.
Greater El Paso Council of Teachers of Mathematics, Dinner
Meeting, El Paso, Tex.
Conference for the Advancement of Mathematics Teaching,
Austin.

R. H. Hunter

Association for Computing Machinery Meeting, University of
Texas at El Paso.
American Mathematical Society Regional Meeting, New York, N.Y.

D. G. Johnson

Quality Education Conference III, New Mexico State University,
Las Cruces.

W. H. Julian

American Mathematical Society Annual Meeting, Denver.
Errett Bishop Memorial, University of California-San Diego,
La Jolla, Calif.

R. A. Knoebel

American Mathematical Society, Short Course in Computer
Communications, Denver.
American Mathematical Society and Mathematical Association
of America Annual Meetings, Denver.
Institute of Electrical and Electronics Engineers Computer
Society, VLSI Computer Committee. Workshop, Designing
with Very Large Scale Integration, Clearwater Beach, Fla.
Mathematical Association of America, Annual Conference of the
Southwestern Section, Socorro, N. Mex.
Association for Computing Machinery, Rio Grande Chapter
Spring Meeting, Las Cruces.
Association for Computing Machinery, Rio Grande Chapter Fall
Meeting, El Paso, Tex.
Institute of Electrical and Electronics Engineers, Symposium
on Foundations of Computer Science, Tucson, Ariz.

W. M. Krueger

American Mathematical Society Regional Meeting, Evanston, Ill.
"The CAUSE Project," Small Computers in Business: A
User's Symposium, sponsored by Computer Tutor.

D. S. Kurtz

American Mathematical Society Annual Meeting, Denver.
American Mathematical Society 808th Meeting, Evanston, Ill.

R. J. Y. McLeod

Biennial Conference on Numerical Analysis, University of
Dundee, Scotland.

R. Mines

Errett Bishop Memorial Mathematics Meeting, University of
California-San Diego, Calif.

H. T. Nguyen

Mathematical Association of America, Southwestern Section
Spring Meeting, New Mexico Institute of Mining Technology,
Socorro, N. Mex.
Institute of Mathematical Statistics Western Regional Meeting,
Arcata, Calif.

1983 American Control Conference, San Francisco, Calif.
Statistics Meeting in Honor of Neyman and Keifer, University
of California-Berkeley.

D. J. Pengelley

American Mathematical Society and Mathematical Association of
American Annual Meetings, Denver.
Canadian Mathematical Society Conference and Workshop on
Algebraic Topology, St. John's, Newfoundland, Canada.
Algebraic Topology and K-Theory Conference, Princeton, N.J.

K. L. Phillips

Midwest Conference in Operator Theory Annual Meeting,
University of Colorado-Boulder, Colo.
National Science Foundation Regional Conference on
Representations and Harmonic Analysis on Reductive p-adic
Groups, University of Chicago.

F. Richman

Errett Bishop Memorial Mathematics Meeting, San Diego,
Calif.

M. M. Scott

New Mexico Mathematics and Science Teachers Conference, Las
Vegas, N. Mex.
Rocky Mountain Educational Research Association Annual
Conference, Tucson, Ariz.

C. C. Sherman

American Mathematical Society Annual Meeting, Denver.
American Mathematical Society and National Science Foundation
Conference, on Algebraic K-Theory, Boulder, Colo.

C. W. Swartz

American Mathematical Society and Mathematical Association of
American, Annual Meetings, Denver.
Mathematical Association of America Southwest Section Meeting,
Socorro, N. Mex.

I. E. Vance

New Mexico Council of Teachers of Mathematics, Las Vegas, N. Mex.
National Council of Teachers of Mathematics Regional Meeting,
Great Falls, Mont.
National Council of Supervisors of Mathematics Annual Meeting,
Detroit, Mich.
National Council of Teachers of Mathematics Annual Meeting,
Detroit, Mich.
New Mexico Council of Teachers of Mathematics, Board Meeting,
Albuquerque, N. Mex.

C. L. Walker

American Mathematical Society, National Chairman's Colloquium,
Washington, D.C.
New Mexico State University Quality Education Conference III,
Las Cruces.

E. A. Walker

American Mathematical Society, Mathematical Association of
America, Joint Annual Meetings, Denver.
American Mathematical Society Regional Meeting, New York, N.Y.
American Mathematical Society, Axiomatic Set Theory Research
Conference, Boulder, Colo.
American Mathematical Society, Mathematical Association of
America, Joint Summer Meeting, Albany, N.Y.

F. D. Williams

American Mathematical Society Regional Meeting, New York, N.Y.
Canadian Mathematical Society Research Conference, St. Johns,
Newfoundland.

R. J. Wisner

American Mathematical Society and Mathematical Association
of America, Annual Meeting, Denver.
Fundamentals of Mathematics Teachers, Texas State Meeting,
San Antonio, Tex.
Greater El Paso Council of Teachers of Mathematics Meeting,
El Paso, Tex.
Mathematical Association of America, Southwestern Section
Meeting, Socorro, N. Mex.
National Council of Teachers of Mathematics, Annual Meeting,
Detroit, Michigan.
Advancement of Mathematics Teaching Conference, Austin.
Louisiana Council of Teachers of Mathematics, Baton Rouge, La.

II. GRANTS AND PROPOSALS

<u>PRINCIPAL INVESTIGATOR(S) AND AGENCY</u>	<u>FUNDED</u>	<u>PENDING</u>
J. M. Adams, G. Flachs, K. L. Phillips, R. Schvaneveldt; Research Office		\$400,000
J. M. Adams, R. H. Hunter, J. O. Loustaunau; U.S. Army TRASANA	\$ 94,000	
D. M. Arnold, R. H. Hunter, F. Richman, E. A. Walker; National Science Foundation	3,000	

D. M. Arnold, R. H. Hunter, F. Richman, E. A. Walker; National Science Foundation	68,200	
D. M. Arnold; Deutscher Akademischer Austauschdienst, West Germany	1,400	
R. J. Bagby, D. S. Kurtz; National Science Foundation		91,698
R. H. Hunter, E. A. Walker; National Science Foundation	178,110	
R. A. Knoebel; National Science Foundation		50,000
J. O. Loustauanau; U. S. Army TRASANA		36,215
H. T. Nguyen; National Science Foundation	1,000	
H. T. Nguyen; National Science Foundation		30,642
D. J. Pengelley; National Science Foundation		41,182
K. L. Phillips; Battelle Columbus Laboratory	9,361	
K. L. Phillips; Battelle Columbus Laboratory	19,774	
K. L. Phillips; Computer Research Laboratory	38,992	
M. M. Scott; Carnegie Foundation		10,000
C. C. Sherman; National Science Foundation	9,498	42,184
E. A. Walker; Computer Research Laboratory		28,009

III. COLLOQUIUM SPEAKERS

- Joyce O'Halloran, University of Wisconsin-Milwaukee, "Nilpotent groups and unipotent algebraic groups."
- Phillip Schultz, University of Western Australia, "The endomorphism ring of a locally free module."
- Peter Cannon, staff vice president-research, Rockwell International, "Mathematical science—a tool for the future."
- Otto Mutzbauer, Universitat Warzburg, "Almost completely decomposable groups."
- Martin Huber, Universitat Freiberg i.Br., "On the unique elongation of Abelian p-groups."
- Bernhard Amberg, Universitat Mainz, "Factorization of infinite soluble groups."
- John Selfridge, editor, Math Reviews, "Why is 1^{1013} a prime number?"
- Ron Devore, University of South Carolina and Texas A & M University, "How to measure the size of a compact set."

- Jan Mycielski, University of Colorado-Boulder, "Some relations between computer science and mathematical logic."
Horace V. Mochizuki, University of California, Santa Barbara, "Automorphisms of groups."
James C. Kirby, New Mexico State University, "Initiation of algorithms for linear programming."
Mark Mandelkern, New Mexico State University, "Constructive continuity."
K. R. Goodearl, University of Utah, "Partially ordered Grothendieck groups."
Tom Larkin, New Mexico State University, "Cylindrical shock waves."
Gerald S. Rogers, New Mexico State University, "Some contributions to survival analysis--for Every(math)man."
Barry Mackichan, New Mexico State University, "The T³ Technical word processing system."
John D. Thomas, New Mexico State University, "Quaternions, Cayley transformations and guided missiles."
Hung Nguyen, New Mexico State University, "Some probabilistic tools for statistics of stochastic processes."
Elbert Walker, New Mexico State University, "Some comments on valuated groups."
Robert J. Wisner, New Mexico State University, "Phyllotaxis lives between Eulitz and Liouville: some results on surds."
Douglas S. Bridges, New Mexico State University and University of Buckingham, "Some results in constructive mathematics."
James E. Daly, New Mexico State University and the College of the Redwoods, "Orthogonal Functions and Special Survey methods for the estimation of population size."
Ed Scribner, New Mexico State University, "Toward an economic model of taxpayer-IRS interaction."
James D. Reid, Wesleyan University, "Irreducible abelian groups."
Joerg M. Stelzer, New Mexico State University, "Ring theoretical criteria for cancellation."

IV. RESEARCH PAPERS PRESENTED

- Arnold, D. M., "Direct sum decompositions in additive categories," Group Theory Workshop, Freiburg, West Germany, June 1983.
Arnold, D. M., "An introduction to torsion free abelian groups," colloquium address, Duisburg, West Germany, May 1983; Mainz, West Germany, June 1983; Muchen, West Germany, June 1983.
Arnold, D. M., "Butler groups," colloquium address, Wurzburg, West Germany, June 1983.
Gaughan, E. D., "Eleventh grade algebra at the colleges," Conference for the Advancement of Mathematics Teaching, Austin, October 1983.
Hunter, R. H., "The T³ word processing system," Association for Computing Machinery Conference, University of Texas at El Paso, October 1983.

- Hunter, R. H., D. Beers, E. A. Walker, "A listing of finite simply presented valuated p -groups," American Mathematical Society Regional Meeting, New York, N.Y., April 1983.
- Hunter, R. H., D. Beers, E. Walker, "Applications of matrix representations to direct sum decompositions of finite valuated p -groups," American Mathematical Society Regional Meeting, New York, N.Y., April 1983.
- Knoebel, R. A., "The finite interpolation property for small sets of classical polynomials," American Mathematical Society Annual Meeting, Denver, January 1983. (See AMS Notices, 3(4), (1982), p. 297).
- Knoebel, R. A., "The rapid calculation of remainders," Mathematics Association of America Southwestern Section Meeting, Socorro, N. Mex., March 1983.
- Krueger, W. M., "The K-Theory Adams spectral sequence sphere spectrum," American Mathematical Society Regional Meeting, Evanston, Ill., November 1983.
- McLeod, R. J. Y., "A classification of parametric cubic and its implication to computer-aided design", Deere and Company, Moline, Illinois, May 1983.
- Nguyen, H. T., G. Rogers, E. Walker, "Estimation in change-point hazard rate models," Institute of Mathematical Statistics Western Regional Meeting, Arcata, Calif., June 1983.
- Nguyen, H. T., "Logical systems and uncertainty modeling," 1983 American Control Conference, San Francisco, Calif., June 1983.
- Nguyen, H. T., "Density estimation by cross-validation," colloquium address, New Mexico Institute of Mining Technology, Socorro, April 1983.
- Nguyen, H. T., "Uncertainty modeling: algebraic aspects and inferences," Expert Systems Seminar, University of California at Berkeley, June 1983.
- Pengelly, David J., "The homology of $M\text{Spin}$," Conference and Workshop on Algebraic Topology, Canadian Mathematical Society, St. John's, Newfoundland, Canada, August 1983.
- Pengelly, David J., "Comodules and Hopf algebras in algebraic topology," colloquium address, University of Connecticut at Storrs, October 1983.
- Pengelly, David J., "The homology of $M\text{Spin}$," Lectures in Topology Seminar, University of Washington at Seattle, July 1983.
- Phillips, K. L., "The Kirillov method of constructing representations of $SL(2, K)$, K a p -adic field," Harmonic Analysis Seminar, University of Colorado at Boulder, spring 1983.
- Phillips, K. L., "Plane curves and Fourier series: applications to pattern recognition," colloquium address, Department of Computer Science, New Mexico State University, October 1983.
- Richman, F., "Constructive algebra," Geometric Logic Seminar, University of Pennsylvania at Philadelphia, November 1983.

- Rogers, G. S., E. Walker, H. Nguyen, "Estimation on change point hazard note models," Institute for Mathematical Statistics, Arcata, Calif., June 1983.
- Scott, M. M., P. Hosford, "Problem solving requiring knowledge/skill integration," Rocky Mountain Educational Research Association Annual Conference, Tucson, Ariz., November 1983.
- Swartz, C. W., "The uniform boundedness principle without completeness," colloquium address, Florida Central University at Orlando, June 1983; University of Florida at Gainesville, June 1983.
- Vance, I. E., "Problem solving skills and strategies," New Mexico Council of Teachers of Mathematics, Las Vegas, N. Mex., January 1983.
- Vance, I. E., "Equity in Mathematics Education," New Mexico Council of Teachers of Mathematics, Las Vegas, N. Mex., January 1983.
- Vance, I. E., "Problem solving skills and strategies for junior high school," National Council of Teachers of Mathematics, Great Falls, Mont., March 1983.
- Vance, I. E., "Problem solving skills and strategies for elementary school," National Council of Teachers of Mathematics, Great Falls, Mont., March 1983.
- Vance, I. E., "Using homogeneous coordinates in elementary geometry," colloquium address, Mathematics Department, University of Montana, at Missoula, March 1983.
- Vance, I. E., "Problem solving skills and strategies for high school," National Council of Teachers of Mathematics, Detroit, Mich., April 1983.
- Walker, E. A., D. Beers, R. Hunter, "A listing of finite simply presented valuated p -groups," American Mathematical Society Regional Meeting, New York, N.Y., April 1983.
- Walker, E. A., D. Beers, R. Hunter, "Applications of matrix representation to direct sum decompositions of finite valuated p -groups," American Mathematical Society Regional Meeting, New York, N.Y., April 1983.
- Walker, E. A., "Some comments on valuated groups," colloquium address, Department of Mathematics, University of Colorado at Colorado Springs, November 1983.
- Walker, E. A., H. Nguyen, G. Rogers, "Estimation in change-point hazard rate models," Institute of Mathematical Statistics Western Regional Meeting, Arcata, Calif., June 1983.
- Williams, F. D., "Bounded deformations in Riemannian manifolds", American Mathematical Society Regional Meeting, New York, N.Y., April 1983.
- Williams, F. D., "Applications of algebraic topology to the calculus of variations," Canada Mathematical Society Research Conference, St. John's, Newfoundland, Canada, August 1983.
- Wisner, R. J., "Self-correcting drill exercises," Texas State Meeting of Fundamentals of Mathematics Teachers, San Antonio,, February 1983.

- Wisner, R. J., "Problem Solving," Greater El Paso Council of Teachers of Mathematics, El Paso, Tex., February 1983.
- Wisner, R. J., "Triangles," Annual Meeting, National Council of Teachers of Mathematics, Detroit, Mich., April 1983.
- Wisner, R. J., "Triangles with integer sides," Conference on the Advancement of Mathematics Teaching, Austin, October 1983.
- Wisner, R. J., "Digital awareness," Louisiana Council of Teachers of Mathematics, Baton Rouge, November 1983.