

# MATHEMATICS DEPARTMENT NEWSLETTER

## (1987-1988)

### A WORD FROM THE CHAIRMAN

The Mathematics Department has moved forward on several fronts during the past year. Without question, the Department overall is at the strongest point in its history. This year, faculty recruiting was a striking success. To date six tenure track offers have been made and five accepted. Those accepting are Paul C. Fife (Professor), Lajos Horvath (Associate Professor), Nicholas J. Korevaar (Associate Professor), Peter J. Braam (Assistant Professor) and Philip K. Maini (Assistant Professor). The Hiring Committee with Calvin Wilcox as Chair is to be commended for its effort.

A major restructuring of the Department management took place this year. Professor Bob Brooks' role as Associate Chair was greatly upgraded when he assumed the duties of the former Administrative Manager. Bob quickly grasped the subtleties of his new responsibilities and he is now relieving pressure from the job of chair.

The Department's short term space needs have been addressed by the acquisition this year of Building 122 and most of the lower floor of Building 129. We have greatly improved those buildings with a sequence of renovations. The last renovation, to partition six offices in Building 129, is scheduled. These buildings are used to house teaching assistants, teaching fellows, instructional computing facilities and tutorial sessions. We also negotiated a reassignment of space in South Physics which gives a more natural arrangement for our computer staff.

The Department's already excellent computing facilities have been further enhanced. The Department now has one of the best computing facilities of any mathematics department in the country. The facility is serving our undergraduate students, graduate students, and faculty in fundamental ways. Remarkably, only two and one-half years ago the Department's computing facility was very poor. The Department has in its employ an exceptional computing staff. That staff was increased this year and now includes five full-time professionals and several part-time people. Professor Hans Othmer is providing able leadership as the Department's Director of Computing.

The Department of Mathematics is one of the best mathematics departments in the country and it also provides a great service to the University. Here are two of my favorite statistics: (a) Only three (of the thirty-three) states west of the Mississippi River have Mathematics Departments ranked higher than this one. (b) The Mathematics Department teaches over 7% of the student credit hours of the entire University including the Medical School. To illustrate the quality of our faculty, Professor Janos Kollar this year was awarded a prestigious Presidential Young Investigator Award.

Professor Klaus Schmitt will become Chair of the Department at the end of this academic year. He is a long time leader in the Department and is eminently qualified for the position of Chair. It is a great comfort to know that the Department will have the advantage of his capable leadership.

It has been a privilege to work for such an outstanding group of mathematicians for the past three years. It is gratifying to conclude three years as Chair with every single faculty and staff member as a friend. The congenial atmosphere that permeates our Department is certainly a key to its success and I hope that we never lose that good feeling.

T. Benny Rushing

#### **ELIOT CHAMBERLIN RETIRES**

Professor Eliot Chamberlin, who has served as a member of the departmental faculty for thirty-nine years, plans to retire on July 1, 1968. As an undergraduate student at the University of Utah, his primary interest was in Physics with an accompanying study of Mathematics. In the early 1940's, he served as a teaching fellow in Physics at both the University of Utah and the Massachusetts Institute of Technology and then as an Instructor of Physics at Northeastern University. His interests then began to move in the direction of Mathematics; after two years of naval duty he entered the graduate school at Harvard University and was a teaching fellow in the Department of Mathematics. He joined the faculty of the Mathematics Department at the University of Utah in 1949 and was awarded a Ph.D. degree at Harvard in 1950. His doctoral thesis, written under the direction of Hassler Whitney, was on mappings of 4-complexes into simply connected spaces. At the University of Utah, he has written research papers in the areas of topology and analysis and he has directed six doctoral theses and fourteen master's theses in these two areas. Among the numerous committees on which he has served in the Department and in the University, he had an especially important role in the early stages of the development of computing facilities on the campus when he served for three years as Chairman of the Computing Center Advisory Committee. During leaves of absence, he has been a visitor at three universities in Germany and France, a staff member at the Sandia Corporation in Albuquerque, and a visiting member of the Institute for Advanced Study in Princeton. As Emeritus Professor of Mathematics, he plans to continue his study of Mathematics with a special interest in the use of computers to analyse fundamental groups of manifolds. His colleagues and friends wish him many more pleasant and rewarding years in this activity.

#### **DEGREES AWARDED IN 1987**

Including teaching majors, there are 244 undergraduates majoring in Mathematics. In June, 22 students will receive a baccalaureate degree in Mathematics. Students receiving the Ph.D. degree in Mathematics in 1987-1988 are: Mladen Bozicevic, Paul Joyce, Thomas Nordhaus, James Walker, Diana Woodward, and Bertram Zinner.

#### **SUMMER MATHEMATICS MEETING**

The University of Utah hosted the joint national meetings of the American Mathematical Society and the Mathematical Association of America in August 5-8, 1987. Writing in the November, 1987, issue of the Notices of the American Mathematical Society, Sheldon Axler of Michigan State University appraised the meeting thusly: "If you weren't in Salt Lake City in early August, you missed the best AMS-MAA meeting I have ever attended."

#### **GRADUATE STUDENT AWARDS**

The University Research Committee has awarded a Graduate Research Fellowship for 1988-1989 to Gary W. DeYoung.

The recipients of the awards for outstanding teaching by a graduate student are Michael K. Kinyon and Maritza Sirvent.

#### **POSTDOCTORAL AWARDS**

Mladen Bozecivec has received a Outstanding Post Doctoral Award from the Mathematical Sciences Research Institute, Berkeley.

#### **FACULTY AWARDS AND ACTIVITIES**

T. Benny Rushing, Chairman of the Mathematics Department for 1985-1988, will be spending a sabbatical year at the Institute for Advanced Study in Princeton.

Klaus Schmitt is the new chairman. Klaus came to the University of Utah in 1967 after receiving his Ph.D. at the University of Nebraska.

Janos Kollar is one of a small number of recipients nationwide of a Presidential Young Investigator award from the National Science Foundation. This award is for 5 years and the selection is based on the candidate's achievements and potential in both research and teaching.

The Instructorship Award is presented to two Instructors for excellence in research and teaching. The recipients this year are Bernard Johnston and Declan Quinn.

Ken Goodearl will be on leave for 2 quarters in 1988-1989 at the University of California at Santa Barbara and other universities.

Simon Tavaré will be an Honorary Research Fellow in the Department of Statistics of the University of London during the Autumn of 1988.

Domingo Toledo will spend the 1988-1989 year at the Institut des Hautes Études Scientifiques.

Steve Gersten will be on sabbatical at the Mathematical Sciences Research Institute, Berkeley, where he is on the program committee for the Special Year in Combinatorial Group Theory and Geometry.

#### **ADDITIONS TO THE FACULTY**

There are several new appointments to the faculty for 1988-1989. Professor Paul Fife is coming from the University of Arizona. New Associate Professors are Lajos Horvath from the University of Wisconsin and Nicholas J. Korevaar from the University of Kentucky. Peter J. Braam and Philip K. Maini both from Oxford University have been appointed Assistant Professors.

New Instructors for 1988-1989 are Edward S. Letzter from the University of Washington and Nathan Smale from the Mathematical Sciences Research Institute. One more Instructorship offer is outstanding at the present time.

The Department is host to several visitors during the next year: Dang Dinh Ang, Visiting Professor, University of Wisconsin; Thomas G. Kurtz, Visiting Professor, University of Wisconsin; Shigefumi Mori, Visiting Professor, Nagoya University; Christiaan Peters, Visiting Professor, University of Leiden; Peter B. Monk, Visiting Associate Professor, University of Delaware; Yu Su, Associate Instructor, University of Arizona; Camille Debieve, Visiting Scholar, Catholic University of Louvain; William V. Smith, Visiting Scholar, Brigham Young University; Arthur A. Sagle, Visiting Scholar, University of Hawaii; and Luen-fei Tam, Visiting Scholar, Chinese University of Hong Kong.

#### **SUMMER RESEARCH PROGRAM**

With support from the National Science Foundation, Professors Hugo Rossi, Simon Tavaré and Robert Brooks conducted a research program for eleven undergraduate students during the summer of 1987. Eleven participants were selected for this program — five from the University of Utah and six from other schools. The goal was to introduce the students to genuine mathematical research. Each student ended up by working independently on a project which was written up and presented to the others.

#### **UNDERGRADUATE AWARDS**

University of Utah Presidential Scholarships:  
Susan J. Bradshaw, Ioana Donea, Benjamin A. Snarr

Continuing Departmental Scholarships:  
Tatia Baum, Troy Holly, and Kevin D. Baxter.

Susan Catherine Christiansen Memorial Award:  
Michael F. Dobson.

Hurd Award (outstanding sophomore Mathematics major):  
Rita L. Husted.

Biesele Award:  
Kirsten Ann Pernich.

Outstanding Performance on the High School Mathematics Test:  
Glen Buchanan

Gibson Award (outstanding senior Mathematics major):  
Troy Holly.

D. Keith Reed Memorial Award:  
Paul R. Hurst.

Phi Kappa Phi Membership:

Kevin D. Baxter, Don W. Hokanson, Paul R. Hurst, Tina Moore, Suzanne Evans, Craig C. Tingey.

Phi Beta Kappa Membership:

Brett Bloomquist, Don M. Hokanson, Paul R. Hurst, Wendell T. Duncan.

Magna Cum Laude:

Hiroko Oiwa Riches, Paul R. Hurst.

#### **FUND DRIVES**

In cooperation with a fund drive launched by the University, the Department seeks to establish an endowed chair and one or more named postdoctoral instructorships. An endowed chair would require about \$1,000,000 in funds from donors, while each named instructorship would require \$100,000. With the latter, the donor could specify, as in the Moore instructorships at M. I. T., the name which the position would carry. Named instructorships would carry a more attractive salary and would have funds available to aid research activities. Establishment of these would enable the Department to be more competitive with other universities which already have similar positions.

An undergraduate scholarship fund in memory of D. Keith Reed, a truly outstanding teacher, has been established. Anyone wishing to contribute to it may do so with a check payable to "Keith Reed Scholarship Fund" and addressed either to the Mathematics Department or to the Development Office, University of Utah, Salt Lake City, Utah, 84112.

#### **INFORMATION FROM ALUMNI**

The Department welcomes news and information from alumni. If you have any special news, please send it to us and we will try to include it in a similar newsletter next year. Address correspondence to Newsletter, Department of Mathematics, University of Utah, Salt Lake City, UT 84112.

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