Special Issue
Assistantships and Fellowships in the Mathematical Sciences 1985-1986

December 1984, Issue 238
Volume 31, Number 8, Pages 841–944
Providence, Rhode Island USA
ISSN 0002-9920
The Mathematical Heritage of

HENRI POINCARÉ

Felix Browder, Editor

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John Milnor
Ngaiming Mok and Shing-Tung Yau
Alan Weinstein

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William P. Thurston

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Lipman Bers
Wilfried Schmid
Dennis Sullivan

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Phillip A. Griffiths
Roger Penrose
R. O. Wells, Jr.

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of the American Mathematical Society

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explained above) reliance on the postal service change-of-address forms is liable to cause delays in processing such requests in the
AMS office.
Statement by
AMS Committee on Employment and Educational Policy

Current and prospective graduate students in mathematics and their advisors should be informed of employment prospects in the profession.


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(December 1984)

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Arthur P. Mattuck
Donald C. Rung, chairman

The list of assistantships and fellowships on the following pages at universities includes 367 departments of mathematics, applied mathematics, statistics, computer science, and related mathematical disciplines; these represent 265 colleges and universities. Institutions in the United States are listed alphabetically by state, followed by Canadian institutions.

The number following “Faculty” is the number of faculty members in the department who are full time employees in the institution and at least half-time in the department; the number following “Published” is the number of those reported who have published a technical paper or book in the last three years.

The section on “Graduate Students” refers to the number of graduate students in the department who are full-time (including teaching assistants), full-time first year, and part-time. Information not supplied in any of these categories is indicated by a dash.

Under the DEGREES AWARDED column the following terms have been used:

Bachelor's by inst. . . . . . Number of bachelor's degrees awarded by the institution
Bachelor's by dept. . . . . . Number of bachelor's degrees awarded by the department
Master's by dept. . . . . . Number of master's degrees awarded by the department
Ph.D. (81/84) . . . . . . . . . Doctoral degrees awarded during the last three years

Abbreviations used
ANT . . Algebra or Number Theory S . . . Statistics
AFA . . Analysis or Functional Analysis CS . . . Computer Science
GT . . . Geometry or Topology OR . . . Operations Research
L . . . . Logic AM . . Applied Mathematics
P . . . . Probability ME . . Mathematics Education

Under the SERVICE REQUIRED column, hours per week section, “c” denotes contact hours.
# Mathematical Sciences Assistantships and Fellowships

for Graduate Study at Universities in 1985–1986

<table>
<thead>
<tr>
<th>TYPE OF ASSISTANCE</th>
<th>STIPEND (paid to student)</th>
<th>FEES (paid by student)</th>
<th>SERVICE REQUIRED</th>
<th>DEGREES AWARDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>(number anticipated 1985-1986)</td>
<td>(dollars per month)</td>
<td>(months)</td>
<td>(hours per week)</td>
<td>type</td>
</tr>
</tbody>
</table>

### Alabama

**Auburn University, Auburn University 36849**

**MATHEMATICS**

Jack B. Brown, Head

<table>
<thead>
<tr>
<th>Applications due: 3/10/85</th>
</tr>
</thead>
</table>

Graduate Students: full-time 31; full-time first year 9; part-time 0

Teaching Assistantship (45) 6300-12600* 9 1095 5-10 Teaching

Ph. D. (81/84) ANT 5, AFA 1, GT 2. Total: 8

*1984-1985 stipends.

**University of Alabama in Birmingham 35294**

**BIOSTATISTICS AND BIOMATHEMATICS**

Alfred A. Bartolucci, Chairman

<table>
<thead>
<tr>
<th>Applications due: 4/30/85</th>
</tr>
</thead>
</table>

Graduate Students: full-time 8; full-time first year 3; part-time 6

Fellowship (7) 6000 12 50

Ph. D. (81/84) S 2, AM 2. Total: 4

**MATHEMATICS**

Roger T. Lewis, Chairman

<table>
<thead>
<tr>
<th>Applications due: 7/2/85</th>
</tr>
</thead>
</table>

Graduate Students: full-time 6; full-time first year 6; part-time 4

Fellowship (3) 5700 9 950 4 Teaching

Master's by dept. 2

**University of Alabama in Huntsville 35899**

**COMPUTER SCIENCE**

Sajjan G. Shiva, Chairman

<table>
<thead>
<tr>
<th>Applications due: Open</th>
</tr>
</thead>
</table>

Graduate Students: full-time 20; full-time first year 10; part-time 200

Teaching Assistantship (8) 5000-9000 9 Waived 20 Grading, teaching

Research Assistantship (3) 5000-9000 9 Waived 20 Research

MATHMATICS

F. Lee Cook, Chairman

<table>
<thead>
<tr>
<th>Applications due: 3/1/85*</th>
</tr>
</thead>
</table>

Graduate Students: full-time 5; full-time first year 5; part-time 28

Teaching Assistantship (6) 6000-9000 9** 4 Grading, teaching

Graduate Co-op Program***

*Late applications considered if positions are still available.

**Normally, summer assistantships are also available.

***Several positions available.

**University of Alabama, Tuscaloosa 35486**

**MANAGEMENT SCIENCE AND STATISTICS**

F. H. Barron, Head

<table>
<thead>
<tr>
<th>Applications due: Open</th>
</tr>
</thead>
</table>

Graduate Students: full-time 30; full-time first year 10; part-time -

Fellowship 6000 9

Teaching Assistantship (12) 6000 9 6 Teaching

Research Assistantship (5) 6000-5700 9 20 Research

Ph. D. (81/84) S 3, OR 1. Total: 4

**Arizona**

**Arizona State University, Tempe 85287**

**MATHEMATICS**

Joaquin Bustoz, Chair

<table>
<thead>
<tr>
<th>Applications due: 7/1/85</th>
</tr>
</thead>
</table>

Graduate Students: full-time 38; full-time first year 10; part-time 0

Teaching Assistantship (44) 6500-7426 9 755 15-20 Grading, research, teaching

Ph. D. (81/84) AFA 1, P 1, AM 1. Total: 3

**Northern Arizona University, Flagstaff 86011**

**MATHEMATICS**

Michael L. Ratliff, Chairman

<table>
<thead>
<tr>
<th>Applications due: 4/10/85</th>
</tr>
</thead>
</table>

Graduate Students: full-time 10; full-time first year 4; part-time 10

Teaching Assistantship (5-10) 4000-7300 9 850 13-17 Teaching, tutorial

Ph. D. (81/84) AFA 1, P 1, AM 1. Total: 3
<table>
<thead>
<tr>
<th>TYPE OF ASSISTANCE</th>
<th>STIPEND</th>
<th>FEES</th>
<th>SERVICE REQUIRED</th>
<th>DEGREES AWARDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>(number anticipated 1985-1986)</td>
<td>paid to student dollars</td>
<td>paid by student ($)</td>
<td>hours per week</td>
<td>type of service</td>
</tr>
</tbody>
</table>

**University of Arizona, Tucson 85721**

**MATHEMATICS**

R. S. Pierce, Head

Applications due: 2/15/85

Graduate Students: full-time 56; full-time first year 10; part-time 0

Fellowship (1) 6700–7075 9 Waived

Teaching Assistantship (40) 6300–7075 9 Waived 6

<table>
<thead>
<tr>
<th>University of Arizona, Tucson 85721</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MATHEMATICS</strong></td>
</tr>
<tr>
<td>R. S. Pierce, Head</td>
</tr>
<tr>
<td>Applications due: 2/15/85</td>
</tr>
<tr>
<td>Graduate Students: full-time 56;</td>
</tr>
<tr>
<td>full-time first year 10; part-time</td>
</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>Fellowship (1) 6700–7075 9 Waived</td>
</tr>
<tr>
<td>Teaching Assistantship (40) 6300–</td>
</tr>
<tr>
<td>7075 9 Waived 6</td>
</tr>
</tbody>
</table>

**Arkansas**

**Arkansas State University, State University 72467**

**COMPUTER SCIENCE, MATHEMATICS AND PHYSICS**

J. L. Linnestaedter, Chairman

Applications due: 4/1/85

Graduate Students: full-time 11; full-time first year 9; part-time 3

Teaching Assistantship (12) 5350 12 790 3 Teaching

**University of Arkansas, Fayetteville 72701**

**MATHEMATICAL SCIENCES**

Bernard L. Madison, Chairman

Applications due: 3/15/85

Graduate Students: full-time 40; full-time first year 20; part-time 5

Teaching Fellowship (40) 5500–5900 9 6 Teaching

**California**

**California Institute of Technology, Pasadena 91125**

**APPLIED MATHEMATICS**

H. B. Keller, Executive Officer

Applications due: 1/5/85

Graduate Students: full-time 17; full-time first year 4; part-time –

Fellowship (4) 8000 12 Teaching 6

Mathematics

W. A. J. Luxemburg, Executive Officer

Applications due: 1/5/85

Graduate Students: full-time 17; full-time first year 4; part-time –

Fellowship (4) 8000 12 Teaching 6

Mathematics

P. F. Murphy, Interim Head

Applications due: 4/1/85

Graduate Students: full-time 5; full-time first year 2; part-time –

Part-time Instructorship (6) 3113 12 240/qtr. 3 Teaching

*Nonresident: 878 per quarter.

The Program in Applied Mathematics at the University of Arizona is seeking highly qualified graduate students to pursue the M.S. and Ph.D. degrees. First year fellowships of $8,000 per year with tuition waiver are available on a competitive basis. Research assistantships of approximately the same value are available for exceptional students who wish to pursue their studies in geometry and mechanics, modern dynamics, chaos, turbulence, nonlinear waves, solitons, nonlinear optics, pattern formation in fluids and condensed matter, and other areas of nonlinear and computational science. Teaching assistantships are also available. For more information write:

Alan C. Newell, Director
Program in Applied Mathematics
Mathematics Building, Room 414
University of Arizona
Tucson, Arizona 85721
California State University, Fresno 93740

MATHEMATICS
Noel C. Harbertson, Chairman
Faculty 29; Published -
Graduate Students: full-time 5; full-time first year 3; part-time 8

Teaching Assistantship (8-10) 6226-6758 9 243-378 20 Teaching, grading

California State University, Hayward 94542

MATHEMATICS AND COMPUTER SCIENCE
Kenneth R. Rebman, Chairman
Faculty 37; Published 15
Graduate Students: full-time 10; full-time first year 5; part-time 30

Teaching Assistantship (13) 4915-9830 9 236/qtr. Teaching

STATISTICS
Michael Orkin, Chairman
Graduate Students: full-time 29; full-time first year 3; part-time 18

Graduate Assistantship (4) 250-500/mo. 9 2541 10-20 Grading

California State University, Long Beach 90840

MATHEMATICS AND COMPUTER SCIENCE
Charles W. Austin, Acting Chairman
Faculty 53; Published 7
Graduate Students: full-time 10; full-time first year 5; part-time 20

Teaching Assistantship (10) 6225-6489 9 6* Teaching
Graduate Assistantship (3) 5260-5650 9 20 Computer lab. assisting

California State University, Los Angeles 90032

MATHEMATICS AND COMPUTER SCIENCE
Wayne Bishop, Chair
Faculty 31; Published 20
Graduate Students: full-time 10; full-time first year 6; part-time 15

Teaching Assistantship (20) 4150-12030 9/12 * 5-10 Teaching

*Plus $72 per unit for nonresidents.

Humboldt State University, Arcata 95521

MATHEMATICS
Elmo Moore, Chair
Graduate Students: full-time 4; full-time first year 3; part-time -

Teaching Assistantship (3) 4915-6144 9 708* 20 Teaching

*Plus $72 per unit for nonresidents.

Loyola Marymount University, Los Angeles 90045

MATHEMATICS
Jacqueline M. Dewar, Chairperson
Faculty 12; Published 3
Graduate Students: full-time 2; full-time first year 1; part-time 5

Scholarship (1) 500-1500 9 155/hr.

CALIFORNIA STATE UNIVERSITY, LOS ANGELES
M.S. IN PURE OR APPLIED MATHEMATICS

The Department of Mathematics and Computer Science offers programs leading to the masters degree in either pure or applied mathematics. Graduate Teaching Assistantships are available to all candidates who are eligible for classification into the graduate program and who maintain acceptable performance. Assistantship support is approximately $4150 for teaching one course per quarter for 3 quarters and up to $12030 for teaching two courses for 4 quarters. For more information write:

WAYNE BISHOP, Chair
Department of Mathematics and Computer Science
California State University, L. A.
Los Angeles, California 90032

AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY/HANDICAPPED/TITLE IX EMPLOYER
**San Jose State University, San Jose 95192**

**MATHEMATICS AND COMPUTER SCIENCE**

Applications due: 5/1/85

Bachelor's by inst. 3700

John Mitchem, Chairman

Faculty 61; Published 33

Bachelors by dept. 85

Graduate Students: full-time 16; full-time first year 12; part-time 20

Master's by dept. 6

Teaching Fellowship (18-20) 3780-7560 9 764* 3-6** Teaching

*Nonresidents and foreign students pay an additional $117 per unit.

**Stanford University, Stanford 94305**

**ENGINEERING-ECONOMIC SYSTEMS**

Applications due: 2/15/85

Bachelor's by inst. 1645

David G. Luengerer, Chairman

Faculty 9; Published 9

Bachelors by dept. 7

Graduate Students: full-time 143; full-time first year 36; part-time 9

Master's by dept. 39

Fellowship (5) 5228* 9

Teaching Assistantship (16) 5601-5621* 9 20 Preparing, grading

Total: 20

Research Assistantship (12) 5601-5621* 9 20 Research

*Figures given are for 1984-1985; figures for 1985-1986 not yet determined.

**Mathematics**

Applications due: 1/15/85

Bachelor's by inst. 1645

Gregory Brumfiel, Chairman

Faculty 29; Published 15

Bachelors by dept. 7

Graduate Students: full-time 59; full-time first year 16; part-time 0

Ph. D. (81/84) OR 20. Total: 20

Graduate Assistantship (45)* 6000-7000 9 **

Ph. D. (81/84) AN 2, AFA 4, GT 1, P 3, CS 1, OR 1, AM 3, Other 1. Total: 16

*Graduate Assistants serve for one quarter as Teaching Fellows, for one quarter as Course Assistants, and for one quarter as Research Assistants, or serve for three quarters as Course Assistants.

**Teaching Fellows have three contact hours per week, and have sole responsibility for a class. Course Assistants have six contact hours per week. Research Assistants have no formal classroom duties.

**University of California, Berkeley 94720**

**INDUSTRIAL ENGINEERING AND OPERATIONS RESEARCH**

Applications due: 12/15/84

Bachelor's by inst. 5417

C. Roger Glassy, Chairman

Faculty 14; Published 14

Bachelors by dept. 19

Graduate Students: full-time 88; full-time first year 37; part-time 3

Master's by dept. 46

Fellowship (7-9) 4200 9

Teaching Assistantship (6-8) 851/mo. 9 5000 *

Research Assistantship (7-8) 851-760/mo. 9 5000 **

Total: 30

*50% time.

**25–50% time.

**MATHEMATICS**

Applications due: * 5417

Leon A. Henkin, Chairman

Faculty 86; Published 86

Bachelors by dept. 141

Graduate Students: full-time 303; full-time first year 61; part-time 5

Master's by dept. 14

Fellowship (20) 4000-8000 12

Teaching Assistantship (111) 851.40– 10 ** 4* Teaching

Research Assistantship (21) 734–773.50/mo. 10 ** 20 Research

*Fig. 12/15/84; assistantships: 2/1/85.

**Resident: $1420; nonresident: $4984. Nonresidents with support from the department usually receive waivers of the nonresident tuition ranging from about $594 to $1782 per semester.

**STATISTICS**

Applications due: * 5417

David Freedman, Chairman

Faculty 27; Published 24

Bachelors by dept. 31

Graduate Students: full-time 59; full-time first year 15; part-time 0

Master's by dept. 11

Fellowship (8-10) 3800-8500 9

Teaching Assistantship (50) 4257 9 703.25/sem.** 10

Research Assistantship (22) 3302*** 9 703.25/sem.** 10

*Fig. 12/15/84; assistantships: 2/1/85.

**Nonresidents subject to additional fee of $1782 per semester; some waivers available.

***Most Research Assistants also employed as Teaching Assistants concurrently.
University of California, Davis 95616

**MATHEMATICS**

Applications due: 1/15/85
Faculty 42; Published 25
Graduate Students: full-time 41; full-time first year 13; part-time 0

- Fellowship (5) 4800 9 1341-4905 5
- Teaching Assistantship (25) 946–979 9 4158 16 Grading, office hrs.
- Associate-In (6) 969–1003 9 4158 16 Teaching

University of California, Irvine 92717

**MATHEMATICS**

Applications due: 1/1/85
Faculty 27; Published 21
Graduate Students: full-time 40; full-time first year 11; part-time 3

- Teaching Assistantship (26) 8515 9 1383.50 20 Grading, teaching

University of California, Los Angeles 90024

**BIOMATHEMATICS**

Applications due: 3/1/85
Faculty 12; Published 12
Graduate Students: full-time 11; full-time first year 5; part-time 1

- Fellowship (3–4) 3200–8000 9 *
- Teaching Assistantship (1) 7200–7400 9 ** 10 Grading, teaching
- Nonresident Tuition Waiver (1–2) 9

*Resident: $0–8134; nonresident: $80–84905.

**Resident: $1341; nonresident: $4905.

University of California, Riverside 92521

**MATHEMATICS**

Applications due: 2/15/85
Faculty 71; Published 60
Graduate Students: full-time 86; full-time first year 28; part-time 31

- Fellowship (2–4) 6000 9
- Teaching Fellowship (2) 8000–9000 9 2 Teaching
- Teaching Assistantship (59) 8811–9816 9 1341–4905 4 Teaching
- Research Assistantship (12) 9108–10488 9–12 1341–4905 Research
- Community Teaching Fellowship (2) 8811 9 1341–4905 5 Teaching
- Graduate Students: full-time 62; full-time first year 21; part-time 0

**PUBLIC HEALTH, BIOSTATISTICS**

Faculty 2; Published –
Graduate Students: full-time 62; full-time first year 21; part-time 0

- S. Kar, Chairman, Public Health
- W. G. Cumberland, Head, Biostatistics

*Forms are included with applications for financial aid.*

- Fellowship (3) 7000 9 Waived 5 Teaching
- Teaching Fellowship (3) 8514 9 * 5 Teaching
- Graduate Students: full-time 67; full-time first year 32; part-time 2
- Teaching Assistantship (21) 8514 9 * 10 Teaching
- Scholarship (1) 9782 9

*Resident: $1464; nonresident: $84908.

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**UNIVERSITY OF CALIFORNIA, RIVERSIDE**

The department has masters and Ph.D. programs in mathematics and a masters program in computer science. Areas of specialization include: Applied Mathematics, Differential Equations, Functional Analysis, Approximation Theory, Commutative Algebra, General Topology, Algebraic Semi-lattices and semi-groups, Probability and Statistics, Differential Geometry, Several Complex Variables. UCR has a total of about 4500 students, including approximately 1300 graduate students. The Department of Mathematics has a faculty of 21 and about 60 graduate students; a ratio which enables faculty members to work closely with each student. Excellent computing facilities are being regularly expanded and updated. Write to:

Graduate Advisor
Department of Mathematics
University of California, Riverside, CA 92521
University of California at San Diego, La Jolla 92093

MATHMATICS  
Applications due: 2/15/85
Hubert Halkin, Chairman  
Faculty 48; Published 42

Graduate Students: full-time 79; full-time first year 33; part-time 11  
Ph. D. (81/84) ANT 5, AFA 2, GT 1, P 1, S 3, AM 1, Other 5. Total: 18

Fellowship (5)  
6300–8400 9 or 12
Teaching Assistantship (60)  
8514 9 *
Research Assistantship (6)  
7590–8000 10 *
Scholarship (20)  
 Fees and/or Tuition

*In 1984–85 all graduate students (resident and nonresident) pay per quarter $455.50. Nonresident graduate students pay per quarter $1188 tuition in addition to the above. Health Insurance, $53.00 per quarter, is mandatory for foreign students.

**The 20 Tuition and/or Fee Scholarships are given in addition to the Fellowships, Teaching Assistantships and Research Assistantships mentioned above.

University of California, Santa Barbara 93106

MATHMATICS  
Applications due: 1/15/85
James B. Robertson, Chairperson  
Faculty 38; Published 38

Graduate Students: full-time 70; full-time first year 25; part-time 0
Ph. D. (81/84) ANT 8, AFA 3, OR 1. Total: 19

Teaching Assistantship (40)  
3157–9472 9 5000 20
Research Assistantship (7)  
3264–9791 11 5000 20

University of Southern California, Los Angeles 90089

MATHMATICS  
Applications due: 5/1/85
Mark Kac, Interim Chairman  
Faculty 45; Published 42

Graduate Students: full-time 95; full-time first year 25; part-time 5
Ph. D. (81/84) ANT 1, AFA 3, OR 1. Total: 5

Fellowship (2)  
3600 9 160
Teaching Assistantship (76)  
7200–7900 9 160 12

GRADUATE MATHEMATICS AT LA JOLLA, CALIFORNIA

PROGRAMS: (i) M.A. and Ph.D. degrees in pure mathematics offer studies in all major fields of pure mathematics, and in probability, statistics, combinatorics and numerical analysis. A new group in differential geometry and partial differential equations is forming around Professor Shing-Tung Yau. We anticipate that it will be a major force during the next few years. (ii) The M.A. in applied mathematics and the M.S. in statistics are special one to two year courses of study emphasizing applicable mathematics, the latter concentrating on statistics and related subjects.

FINANCIAL AID: Regents Fellowships (approximately $700 per month + Tuition and/or Fees for 9 months). Research Assistantships (approximately $759 per month). Teaching Assistantships (approximately $979 per month for 9 months). San Diego Fellowship (for educationally disadvantaged students; approximately $700 per month + Fees and/or Tuition for 9 or 10 months).

Department of Mathematics - UNIVERSITY OF CALIFORNIA, SAN DIEGO  
La Jolla, California 92093

University of Southern California

The Department of Mathematics currently offers the following degree programs: Ph.D. in Mathematics, Ph.D. in Applied Mathematics, M.S. in Mathematics, M.S. in Applied Mathematics, and M.S. in Statistics. The wide range of faculty interest includes Algebra, Analysis, Nonlinear Functional Analysis, Biomedical Mathematics, Differential Geometry, Mathematical Physics, Numerical Analysis, Ordinary Differential Equations, Probability, Statistics, and Topology. The financial support consists of:

- Teaching Assistantship $7,000–7,700 for nine months plus tuition remission
- Dean's Scholarship $3,600 in addition to Teaching award for four years for qualified students in the Ph.D. program

Write for details to: Graduate Vice-Chairman/Department of Mathematics  
University of Southern California/  
Los Angeles, CA 90089-1113
<table>
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<th>TYPE OF ASSISTANCE</th>
<th>STIPEND</th>
<th>FEES REQUIRED</th>
<th>SERVICE REQUIRED</th>
<th>DEGREES AWARDED</th>
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<td>paid to student</td>
<td>paid by student ($)</td>
<td>hours per week of service</td>
<td>Academic year</td>
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**Colorado**

**Colorado School of Mines, Golden 80401**

**MATHEMATICS**

- **Ardel J. Boes, Head**
  - Applications due: 5/1/85
  - Faculty 20; Published 10
  - Graduate Students: full-time 11; full-time first year 4; part-time 10

- **Teaching Assistantship (4)**
  - 5100-6000
  - 9
  - 12 Grading, teaching

- **Research Assistantship (3)**
  - 5100-6000
  - 9
  - 12 Research

- **Scholarship (1)**
  - 5100-6000
  - 9

**COLORADO STATE UNIVERSITY, Ft. Collins 80523**

**MATHEMATICS**

- **Robert E. Gaines, Chairman**
  - Applications due: 4/15/85
  - Faculty 33; Published 25
  - Graduate Students: full-time 43; full-time first year 15; part-time 6

- **Teaching Assistantship (40)**
  - 6800-8200
  - 9
  - 286.94
  - 10-20 Teaching

- **Research Assistantship (3)**
  - 6800-8200
  - 9
  - 286.94
  - 15 Research

**STATISTICS**

- **Duane C. Boes, Chairman**
  - Applications due: 3/15/85
  - Faculty 16; Published 16
  - Graduate Students: full-time 39; full-time first year 9; part-time 1

- **Teaching Assistantship (10)**
  - 5400-5840
  - 9
  - 287
  - 10-20 Grading, teaching

- **Research Assistantship (10)**
  - 5400-5840
  - 9
  - 287
  - 10-20 Research

**University of Colorado, Boulder 80309**

**MATHEMATICS**

- **L. W. Baggett, Chairman**
  - Applications due: 2/28/85
  - Faculty 43; Published 34
  - Graduate Students: full-time 77; full-time first year 26; part-time 5

- **Fellowship (1)**
  - 3500
  - 9
  - Ph. D. (81/84) ANT 1, AFA 2, GT 3, P 1, AM 2, Other 2.

- **Teaching Fellowship (14)**
  - 7350-7717
  - 9
  - 20 Teaching, grading

- **Teaching Assistantship (40)**
  - 6090-7117
  - 9
  - 20 Teaching, grading

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**University of California, Santa Barbara Graduate Programs in Mathematics**


**FINANCIAL AID**: Teaching Assistantships (approx. $8,800) and a number of Research Assistantships and Tuition Fellowships are available. Additional Fellowships are awarded on the basis of academic merit.

The Department is interested in the advancement of women and minorities in Mathematics. We especially encourage applications from women and minorities, for whom need-based and merit-based fellowships are available.

For full information and application forms, write to:

Ms. Nan Anderson  
GRADUATE AFFAIRS ASSISTANT  
Department of Mathematics  
University of California  
Santa Barbara, CA 93106  
(805) 961-4348
University of Colorado at Denver 80202

MATHEMATICS
Applications due: 4/1/85
Faculty 22; Published 17
Graduate Students: full-time 25; full-time first year 8; part-time 50
Teaching Assistantship (25) 6600-6800 9 6 Grading, teaching
Research Assistantship (8) 6600-6800 9 20 Research

University of Northern Colorado, Greeley 80639

MATHEMATICS AND APPLIED STATISTICS
Applications due: 2/28/85
Faculty 17; Published 9
Graduate Students: full-time 20; full-time first year 4; part-time 2
Teaching Assistantship (4) 4550-5040 9 6 Teaching
*Resident: $492.50 per quarter; nonresident: $926 per quarter.

Connecticut

University of Connecticut, Storrs 06268

MATHEMATICS
Applications due: Open
Faculty 34; Published 26
Graduate Students: full-time 25; full-time first year 14; part-time 5
Teaching Assistantship (18-24) 6500-8200 9 660 4 Teaching
Scholarship (4-10) 1000-8000 9 Varies Varies
Summer Fellowship (Varies) Varies
Lectureship (10-12) 5500-7000 9 1260 6

Wesleyan University, Middletown 06457

MATHEMATICS
Applications due: 3/15/85
Faculty 14; Published 14
Graduate Students: full-time 12; full-time first year 3; part-time 1
Teaching Assistantship (12) 5600 9 10 Grading, teaching
Summer Support (7) 1525

Applied Mathematics at CU-Denver
Offers graduate degrees in • Operations Research • Computer Science • Applied Statistics • Discrete Mathematics • Computational Mathematics
CU-Denver is located in one of the West’s fastest growing centers of research on the Front Range of the Colorado Rockies. Research and teaching assistantships available.
Write: Graduate Program, Department of Mathematics, University of Colorado at Denver, 1100 14th Street, Campus Box 170, Denver, Colorado 80202, (303) 629-8442.

University of Colorado at DENVER
Yale University, New Haven 06520

MATHEMATICS
Applications due: 1/15/85
Bachelor's by inst. 1246
Faculty 28; Published 28
Bachelor's by dept. 23
Graduate Students: full-time 35; full-time first year 6; part-time 1
Master's by dept. 5
Fellowship (10) 690-6000* 9 5 Grading Ph. D. (81/84) ANT 3, AFA 7, GT 4, L 3. Total: 17
*Amounts for new students in 1984; may be higher in 1985.

STATISTICS
Applications due: 1/15/85
Bachelor's by inst. 1246
Faculty 5; Published 5
Master's by dept. 10
Graduate Students: full-time 17; full-time first year 6; part-time -
Ph. D. (81/84) S 7. Total: 7
Fellowship (12) 4500 9 *
Teaching Fellowship (11)*** 690-1380*** Per term *
Research Assistantship (3) 5400 9 20 Research
Other (4) 2835 Per term *
Grading, meeting sections
Research
Consulting
*Most students receive a tuition fellowship from the University.
**3rd- and 4th-year students earn half of their stipend through teaching, consulting, or work on a research contract.
***Total funds available $7590; if the maximum is paid the number of positions must be reduced.

University of Delaware, Newark 19716

COMPUTER AND INFORMATION SCIENCES
Applications due: 2/15/85
Bachelor's by inst. 2822
Faculty 11; Published 11
Bachelor's by dept. 54
Graduate Students: full-time 35; full-time first year 8; part-time 44
Master's by dept. 7
Fellowship (2)* 8000 8 Ph. D. (81/84) CS 2. Total: 2
Teaching Assistantship (17) 6390-7035 9 15-20 Grading, recitation
Research Assistantship (6) 8916-11400 12 20 Research
*Additional university-wide fellowships are also open to Computer and Information Sciences graduate students.

The Department of Mathematics offers programs leading to the M. S. and Ph.D. degrees. The Master's program offers several concentrations, including pure mathematics, computational and applied mathematics, and actuarial science. Plans of study are individually tailored to meet each student's needs and interests. The Ph.D. program offers specialization in a broad range of areas of current research in pure and applied mathematics. Small classes provide individual attention and the chance to work closely with the faculty.

Almost all graduate students receive full financial support (see our listing), as well as a tuition waiver. The teaching load for first-year assistants is four contact hours per week. Supplemental fellowships of $500 to $1000 are available for highly qualified applicants. There are also summer teaching positions and cooperative job opportunities with nearby companies.

The University is within easy reach of the major metropolitan areas of New England and New York City, but is located in an unspoiled rural area surrounded by picturesque forests and farmlands. A full range of recreational and cultural activities is available on campus and close by.

For full information and application forms, write to the Director of the Graduate Program:

Professor K. Abe
Department of Mathematics, U-9
The University of Connecticut
Storrs CT 06268

The University of Connecticut is an affirmative action/equal opportunity employer.
District of Columbia

George Washington University, Washington 20052

**MATHEMATICS**
T. P. G. Liverman, Chairman
Applications due: 3/1/85
Faculty 12; Published 6
Graduate Students: full-time 10; full-time first year 3; part-time 25
Teaching Assistantship (8) 6000-5800 9 6 6 Teaching

Howard University, Washington 20059

**MATHEMATICS**
James A. Donaldson, Chairman
Applications due: Open
Faculty 31; Published 16
Graduate Students: full-time 18; full-time first year 2; part-time 25
Teaching Assistantship (9) 4493 9 Waived 20 Grading, problem sessions

Florida

Florida Institute of Technology, Melbourne 32901

**MATHEMATICAL SCIENCES**
D. R. Clutterham, Head
Applications due: 3/1/85
Faculty 18; Published 4
Graduate Students: full-time 127; full-time first year 71; part-time 43
Teaching Assistantship (8) 4800 12 175 6 Teaching

Florida International University, Miami 33199

**MATHEMATICAL SCIENCES**
Toby Berk, Chairperson
Applications due: Open
Faculty 39; Published 15
Graduate Students: full-time 24; full-time first year 7; part-time 46
Research Assistantship (6) 3000-6000 9 * 10-15 Grading, teaching, research

Florida State University, Tallahassee 32306

**MATHEMATICS**
R. D. McWilliams, Chair
Applications due: *
Faculty 32; Published 25
Graduate Students: full-time 24; full-time first year 7; part-time 0
Research Assistantship (4) 7500 9 ** 20 Research
Minority Fellowship (2) 5900 12 **


Florida Institute of Technology, Melbourne 32901

**STATISTICS**
Frederick Leysieffer, Chairman
Applications due: 2/15/85
Faculty 15; Published 15
Graduate Students: full-time 24; full-time first year 7; part-time 4
Fellowship (2) 6000 12 **
Teaching Fellowship (1) 6000 12 **
Teaching Assistantship (35) 8000-10667 *** 9-12*** ** 20 Teaching
Research Assistantship (4) 7500 9 ** 20 Research
Minority Fellowship (2) 5900 12 **

**In-state: $45 per semester hour; out-of-state: $135 per semester hour, usually waived.
***Stipend proportional to months and to hours service; both are adjustable.

University of Central Florida, Orlando 32816

**MATHEMATICS**
Lokenath Debnath, Chairman
Applications due: 3/15/85
Faculty 30; Published 6
Graduate Students: full-time 12; full-time first year 7; part-time 8
Teaching Assistantship (12) 5700-6000 9 $38.10/sem. hr. 20 Teaching, research, grading
Postdoctoral (1) 9000-13000 9 40 Research
University of Florida, Gainesville 32611

MATHMATICS
A. R. Bednarek, Chairman

Applications due: 4/30/85
Faculty: 60; Published: 21
Graduate Students: full-time 50; full-time first year 15; part-time 2
Teaching Assistantship (50) 6500-8000 9 112 *
*4-6 contact hours per week teaching, not including research hours.

University of Miami, Coral Gables 33124

MATHMATICS AND COMPUTER SCIENCE
Shair Ahmad, Chairman

Applications due: 2/1/85
Faculty: 31; Published: 21
Graduate Students: full-time 50; full-time first year 28; part-time 37
Fellowship (2) 6000 9 132 Research
Teaching Assistantship (24) 6400-6600 9 132 6*

University of North Florida, Jacksonville 32216

MATHMATICAL SCIENCES
Leonard J. Lipkin, Chairperson

Applications due: 5/1/85
Faculty: 9; Published: 7
Graduate Students: full-time 1; full-time first year 0; part-time 35
Teaching Assistantship (2) 4800-6500 9 865 6*

University of South Florida, Tampa 33620

MATHMATICS (Ad on p. 854)
K. L. Pothoven, Chairman

Applications due: 3/15/85
Faculty: 31; Published: 19
Graduate Students: full-time 18; full-time first year 6; part-time 2
Fellowship (2) 5000-5500 9 Waived Research
Teaching Assistantship (30) 7000-9000 9 * 8*
Scholarship (3) 1000 9
Center for Mathematical Services (1) 7500-9500 9 20

*Tuition waivers are available to qualified students.

Georgia

Emory University, Atlanta 30322

MATHMATICS AND COMPUTER SCIENCE (Ad on p. 854)
Paul Waltman, Chairman

Applications due: 2/15/85
Faculty: 19; Published: 11
Graduate Students: full-time 18; full-time first year 6; part-time 2
Fellowship (up to 5) 10000 9 Waived Ph. D. (81/84) ANT 3, AFA 1.
Teaching Assistantship (18) 6500-10000 9 Waived 3

GRADUATE STUDY IN OPERATIONS RESEARCH
AT
DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING
UNIVERSITY OF FLORIDA, GAINESVILLE, FL

We invite applications from students with a solid mathematical background for graduate work in operations research and related disciplines. We offer curricula leading to the M.S. and Ph.D. degrees in which programs of study may be tailored to emphasize the individual interests of students. There are excellent opportunities for M.S. students, as well as for Ph.D. candidates, to work closely with the faculty on theoretical or applied research topics.

Application forms and additional information are available from:

PROFESSOR DONALD W. HEARN, GRADUATE COORDINATOR
DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING
UNIVERSITY OF FLORIDA, GAINESVILLE, FL 32611
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<th>DEGREES AWARDED Academic year</th>
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<td>9</td>
<td>1500</td>
<td>Ph. D. (81/84) OR 1. Total: 1</td>
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**UNIVERSITY OF SOUTH FLORIDA – TAMPA, FLORIDA**

**GRADUATE STUDIES IN MATHEMATICS LEADING TO M.A. AND PH.D. DEGREES**

Our 30 full-time faculty members represent most areas of pure and applied mathematics and statistics. Special M.A. programs are offered in Computational Statistics, Applied Mathematics, and Computer Science. Ph.D. programs are available in these areas also, as well as in Differential Equations, Probability, Statistics, Analysis, Approximation Theory, and other areas. Interdisciplinary programs with the College of Engineering and the College of Medicine are available. The special facilities of the department include a computer laboratory and a Center for Mathematical Services in which qualified students and faculty can become involved in consulting services to business, industries, hospitals, and schools in the Tampa Bay Area.

The University has over 27,000 students and three branch campuses. The main campus is located north of the City of Tampa. The area is a resort area boasting of a warm climate all year.

Financial aid is available to qualified students in the form of Fellowships and Teaching Assistantships. In addition to the stipends quoted above, tuition waivers are available to qualified students. For further information, write to:

Dr. K. L. Pothoven, Chairman

Department of Mathematics – University of South Florida, Tampa, Florida 33620

**EMORY UNIVERSITY**

**Department of Mathematics and Computer Science**

The Department offers programs leading to the M.A., M.S., and Ph.D. degrees in Mathematics and to the M.S. degree in Mathematics-Computer Science and Statistics-Computer Science. Ph.D. students in Mathematics may specialize in many areas including algebra, analysis and combinatorics. Advanced study is supported by excellent library holdings and computing facilities.

**Financial Aid** – The Department offers aid in the form of teaching assistantships, fellowships, and tuition waivers. Awards carry a stipend of between $6,500 and $10,000 for nine months, plus tuition. Assistants typically teach one class per semester.

**Woodruff Fellowships** – The University also offers a number of Woodruff Fellowships carrying a $10,000 award and full tuition for three academic years. The Department may nominate five students to compete for these awards. Students with outstanding undergraduate records are particularly urged to apply for these awards.

Additional summer support is also available for interested students.

For information contact:

Ronald J. Gould

Department of Mathematics and Computer Science

Emory University

Atlanta, Georgia 30322
<table>
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<tr>
<th>TYPE OF ASSISTANCE</th>
<th>Stipend paid to student</th>
<th>Fees paid by months</th>
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<td>Coop Fellowship (4)</td>
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*Set by industry.

University of Georgia, Athens 30602

MATHEMATICS

- Fellowship (4)
- Teaching Assistantship (45)
- Research Assistantship (4)
- Coop Fellowship (4)

University of Hawaii, Honolulu 96822

MATHEMATICS

- Teaching Assistantship (21)
- Nonteaching Assistantship (9)

University of Hawaii, Pocatello 83209

MATHEMATICS

- Teaching Assistantship (12)

University of Idaho, Moscow 83843

MATHEMATICS AND APPLIED STATISTICS

- Teaching Assistantship (18)

M. A. AND PH.D. PROGRAMS AT HAWAII

The University of Hawaii Mathematics Department has an excellent young faculty of 37 members. The Ph.D. program is relatively new, and the small number of graduate students makes for an extremely favorable student-faculty ratio. The academic, living, and recreational environments are very agreeable. Teaching assistanships are available starting at $5364 plus a tuition waiver. Additional compensation is available for summer teaching. For details write:

T. C. Craven, Graduate Chairman – Department of Mathematics
University of Hawaii at Manoa – Honolulu, HI 96822

AN EQUAL OPPORTUNITY EMPLOYER
Illinois

Chicago State University, Chicago 60628

MATHEMATICS AND COMPUTER SCIENCE Applications due: 8/1/85 Bachelor's by inst. 631
Cary Webb, Chairman Faculty 20; Published 4 Bachelor's by dept. 40
Graduate Students: full-time 1; full-time first year --; part-time 10 Master's by dept. 3
Graduate Assistantship (1) 6000-6600 10 Waived 20 Teaching

Eastern Illinois University, Charleston 61920

MATHEMATICS Applications due: 3/1/85 Bachelor's by inst. 2200
Alphonso J. DiPietro, Chairman Faculty 30; Published 8 Bachelor's by dept. 40
Graduate Students: full-time 16; full-time first year 8; part-time 15 Master's by dept. 8
Teaching Assistantship (12) 4140 9 4° Teaching
Graduate Assistantship (2) 3105 9 10 Tutorial or computer programming laboratory

Illinois State University, Normal 61761

MATHEMATICS Applications due: 4/1/85* Bachelor's by inst. 3424
Albert D. Otto, Chairman Faculty 41; Published 21 Bachelor's by dept. 39
Graduate Students: full-time 12; full-time first year 10; part-time 14 Master's by dept. 6
Teaching Assistantship (12) 4050-4500 9 Waived 4° Teaching Ph. D. (81/84) ANT 1, ME 1.
Doctoral Assistantship (4) 5400-7650 9 Waived 4° Teaching Total: 2
Instructorship (3-5) 7200-9000 ** 6-8° Teaching
*Late applications can be considered.
**Four hours waived.

Northeastern Illinois University, Chicago 60625

MATHEMATICS Applications due: 8/1/85 Bachelor's by inst. 1350
Barry Dayton, Chairperson Faculty 14; Published 4 Bachelor's by dept. 10
Graduate Students: full-time 2; full-time first year --; part-time 7 Master's by dept. 7
Teaching Assistantship (4) 2100-3700 10 9-18 Teaching, tutoring
Faculty Assistantship (2) 4000-8000 10 16-32 Teaching, tutoring

Northern Illinois University, Dekalb 60115

MATHEMATICAL SCIENCES Applications due: 5/1/85 Bachelor's by inst. 3853
Anton Zettl, Chairman Faculty 52; Published 40 Bachelor's by dept. 39
Graduate Students: full-time 45; full-time first year 20; part-time 21 Master's by dept. 11
Teaching Assistantship (44) 5300-6500 9 15 Grading, teaching
Research Assistantship (1) 5300-6500 9 15 Research

Northwestern University, Evanston 60201

INDUSTRIAL ENGINEERING AND MANAGEMENT SCIENCES Applications due: 3/1/85 Bachelor's by inst. 1266
Arthur P. Hurter, Jr., Chairman Faculty 15; Published 15 Bachelor's by dept. 55
Graduate Students: full-time 45; full-time first year 12; part-time 2 Ph. D. (81/84) P 3, OR 10.
Fellowship (8) 850-880 9 Total: 13
Teaching Assistantship (13) 800 9 15 Tutoring, teaching
Research Assistantship 775-1100 9 * 15-20 Research
*90% included.

MATHEMATICS Applications due: 1/15/84 Bachelor's by inst. 1266
R. Clark Robinson, Chairman Faculty 36; Published 36 Bachelor's by dept. 59
Graduate Students: full-time 40; full-time first year 9; part-time 1 Master's by dept. 7
Fellowship (8-12) 6300 9 Waived 2-3 Grading, teaching, research Ph. D. (81/84) ANT 1, AFA 1,
Teaching Assistantship (30-35) 6300 9 Waived 2-3 Grading, teaching, research GT 5, P 2, S 2, AM 2, Other 1.
Total: 14

Southern Illinois University, Carbondale 62901

MATHEMATICS Applications due: * Bachelor's by inst. 4427
Alphonse Baartmans, Executive Officer Faculty 48; Published 32 Bachelor's by dept. 25
Graduate Students: full-time 48; full-time first year 22; part-time 3 Master's by dept. 8
Fellowship (2) 5200-5565 11 272-425 Ph. D. (81/84) AFA 1, S 1,
Teaching Assistantship (25) 5130-5580 9 272-425 6° Teaching AM 1. Total: 3
Teaching Assistantship (5) 6270-6820 11 272-425 6° Teaching
*Fellowships: 2/1/85; assistantships: 4/1/85. Late applications considered for vacancies.
The University: The main campus of Northern Illinois University is in DeKalb, a community of about 33,000 located 65 miles west of Chicago's Loop on the East-West Tollway. The university's location offers many cultural, recreational, and economic opportunities. There are approximately 24,000 students at the university.

The Department: The Department of Mathematical Sciences offers graduate programs of instruction and research leading to the degrees of Master of Science and Doctor of Philosophy. There are 65 graduate students enrolled in those programs and the department has 40 graduate faculty. The major areas of research strength are algebra, analysis, differential equations, mathematics education, number theory, numerical analysis, and statistics.

Master of Science in Mathematics: The degree in mathematics is designed so that the student may specialize in pure mathematics, applied mathematics, computational mathematics, or mathematics education. Students coming out of these programs have been successful in taking advantage of the many job opportunities in research organizations, government, industry, and education. These programs have also provided an excellent preparation for the pursuit of the Ph.D. degree.

Master of Science in Applied Probability and Statistics: The degree Master of Science with a major in applied probability and statistics has been offered since 1976 through the Department of Mathematical Sciences. Students coming out of the program have been successful in taking advantage of the many job opportunities that require career statisticians. These occur, for example, in research organizations, government, industry, and education. The program has also proved to be an excellent preparation for the pursuit of the Ph.D. degree in statistics.

Doctor of Philosophy: The department has recently instituted a Ph.D. program which is of a nontraditional nature. The program speaks to today's needs and prepares researchers in the mathematical sciences who possess a unique blend of knowledge in the mathematical sciences and awareness of applications of that knowledge. Students develop a perspective which sees the mathematical sciences as an integrated whole with appropriate roles played by pure and applied considerations. The required combination of coursework and experience enables the student who completes the program to pursue a career in either the academic or the nonacademic world.

Financial Assistance: The department currently has 38 graduate teaching assistants and anticipates that this number will increase next year. Teaching assistants generally serve under the direction of a faculty member and meet four recitation classes, of about 25 students each, per week. Anticipated are nine month stipends of: $5,300 and $5,500 for first and second year students respectively and $6,500 for Ph.D. students beyond the second year.

For information contact:
Peter J. Nicholls
Director of Graduate Studies
Mathematical Sciences Department
Northern Illinois University
DeKalb, IL 60115-2888

Northern Illinois University is an equal opportunity institution and does not discriminate on the basis of race, color, religion, sex, age, national origin, handicap, or status as a disabled or Vietnam-era veteran.
University of Chicago, Chicago 60637

MATHMATICS
Applications due: 1/15/85
Bachelor's by dept. 33
Felix E. Browder, Chairman
Faculty 40; Published 48
Graduate Students: full-time 71; full-time first year 18; part-time –
Ph. D. (81/84) ANT 10, AFA 9,
Fellowship (15) 6000 9 Ph. D. (81/84) GT 2, L 1, AM 6. Total: 28
Teaching Assistantship (6) 3375 15
Charles Neblock, Chairman
Graduate Students: full-time 13; full-time first year 5, part-time 1
Teaching
Fellowship (13) 6300 9 10
Self-support (2) 4200

University of Illinois, Chicago 60680

MATHMATICS, STATISTICS, AND COMPUTER SCIENCE
Applications due: 5/15/85
Bachelor's by dept. 880
Louise Hay, Head
Faculty 75; Published 63
Graduate Students: full-time 169; full-time first year 45; part-time 30
Ph. D. (81/84) ANT 2, L 1, 23
Fellowship (7-8) 6000 9 174
Teaching Assistantship 5600-6000 9 174 6
Research Assistantship (3-5) 2000 3 174 20 Research
Ph. D. (81/84) S 6. Total: 9

University of Illinois, Urbana 61801

MATHMATICS
Applications due: 2/15/85
Bachelor's by dept. 6066
Heini Halberstam, Head
Faculty 100; Published 74
Graduate Students: full-time 212; full-time first year 65; part-time 5
Ph. D. (81/84) ANT 15, AFA 5,
Fellowship (4) 8100 12 196
Teaching Fellowship (5) 8950 9 196 5
Teaching Assistantship (150) 6000 9 196 5
Total: 37
Ph. D. (81/84) GT 4, L 4, P 4, S 1, AM 4.

THEORETICAL AND APPLIED MECHANICS
Applications due: Open
Bachelor's by dept. 6066
F. A. Leckie, Head
Faculty 20; Published 18
Graduate Students: full-time 52; full-time first year 11; part-time –
Ph. D. (81/84) AM 3, Other 19.
Fellowship (1) 10000 9 107 20 Research
Teaching Assistantship (31) 7700–8100 9 107 20 Grading, teaching
Research Assistantship (18) 7700–8100 9 107 20 Research
Total: 22

Western Illinois University, Macomb 61455

COMPUTER SCIENCE
Applications due: 3/1/85
Bachelor's by dept. 2062
Charles Neblett, Chairman
Faculty 20; Published 6
Graduate Students: full-time 62; full-time first year 14; part-time –
Master's by dept. 9
Graduate Assistantship (6) 3375 9 136.50 15 Lab monitoring, pro-
gramming assistance

MATHMATICS
Applications due: 4/30/85
Bachelor's by dept. 2062
Larry Morley, Chairman
Faculty 29; Published 16
Graduate Students: full-time 12; full-time first year 11; part-time 4
Master's by dept. 6
Teaching Assistantship (6) 3000 9 10–15 Grading, teaching

APPLIED MATHEMATICS AT NORTHWESTERN UNIVERSITY

Applied Mathematics is concerned with the solution of problems in the physical, engineering, life and social sciences which can be formulated as mathematical models. The curriculum encompasses courses in mathematical methods and in areas of application. Students are trained for careers in fields where mathematical tools play an essential role, including teaching, basic and industrial research.

The campus is located immediately north of Chicago adjacent to Lake Michigan. This location provides the combined advantages of a lovely suburban community and the many cultural opportunities of the metropolitan area.

Fellowships and assistantships ($6300–47600, for nine months with full remission of tuition) are available with additional opportunity for summer support. Health service, hospitalization and surgical benefits are included.

For further information about M.S. and Ph.D. degrees in Applied Mathematics write to:

Professor R. A. Kliphardt, Department of Engineering Sciences and Applied Mathematics
Northwestern University, Evanston, Illinois 60201

858
Indiana

Ball State University, Muncie 47306

MATHEMATICAL SCIENCES

Applications due: 3/15/85

Bachelor's by inst.  2761
Bachelor's by dept.  51
Master's by dept.  10

Teaching Assistantship (12-15)  3310
Graduate Students: full-time 15; full-time first year 8; part-time 40

Indiana State University, Terre Haute 47809

MATHEMATICS AND COMPUTER SCIENCE

Applications due: 6/1/85

Bachelor's by inst.  1635
Bachelor's by dept.  108
Master's by dept.  16

Teaching Assistantship (130)  5500-6500
Graduate Students: full-time 32; full-time first year 14; part-time 14

Indiana University, Bloomington 47405

MATHEMATICS

Applications due: 2/15/85

Bachelor's by inst.  4262
Bachelor's by dept.  33

Fellowship (4)  5500-6500
Graduate Students: full-time 103; full-time first year 35; part-time 7

Teaching Assistantship (130)  5500-6300

Research Assistantship (1)  5500-6300

Summer Teaching Assistantship (45)  800-1300

*Accompanied by a full fee remission which exempts the student from paying all fees except approximately $150 per semester for general expenses (Health fee, etc.).

**The typical stipend for new graduate students will be at least $5,500.

***Accompanied by a full fee remission which exempts the student from paying all fees except approximately $75 for general expenses (Health fee, etc.).

Indiana University--Purdue University at Indianapolis 46223

MATHEMATICAL SCIENCES

Applications due: 3/15/85

Bachelor's by inst.  529
Bachelor's by dept.  71

Fellowship*  6000-9240
Graduate Students: full-time 101; full-time first year 44; part-time 10

Teaching Assistantship*  6250-6800

Research Assistantship*  7500-9240

Minority Fellowships*  6000

*Number anticipated not known at this time.
***$150 per semester; $50 per summer.

Purdue University, West Lafayette 47907

COMPUTER SCIENCES

Applications due: 2/1/85

Bachelor's by inst.  529
Bachelor's by dept.  175

Fellowship  5000-6000
Graduate Students: full-time 64; full-time first year 37; part-time 27

Teaching Assistantship  4940-11080

Research Assistantship  4940-5540

GE (1)  6000-10000

GEM (2)  5000

INDUSTRIAL ENGINEERING

Applications due: 3/15/85

Bachelor's by inst.  529
Bachelor's by dept.  175

Fellowship (2)  5000-6000
Graduate Students: full-time 64; full-time first year 37; part-time 27

Teaching Assistantship (10)  4940-5540

GE (1)  6000-10000

*Accompanied by a full fee remission which exempts the student from paying all fees except approximately $150 per semester for general expenses (Health fee, etc.).

**The typical stipend for new graduate students will be at least $5,500.

***Accompanied by a full fee remission which exempts the student from paying all fees except approximately $75 for general expenses (Health fee, etc.).

859
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<td>4*</td>
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**Iowa**

Iowa State University, Ames 50011

**STATISTICS**

Applications due: 3/31/85

Bachelor's by inst. 3418

Dean L. Isaacson, Acting Director and Head

Faculty 35; Published 33

Bachelor's by dept. 10

Graduate Students: full-time 28; full-time first year 2; part-time 23

Teaching Assistantship (26) 640-735/mo. 9 365/sem.* 20 Teaching, service

Ph. D. (81/84) S 35. Total: 35

Research Assistantship (24) 635-715/mo. 12 365/sem.* 20 Research, service

PACE (10)** 365/sem. 12

*Graduate assistants are reimbursed half of in-state tuition, total $736.

**By competition. An award offered by the Graduate College as a Premium for Academic Excellence (PACE) based on prior scholastic achievement.

University of Iowa, Iowa City 52242

**APPLIED MATHEMATICAL SCIENCES**

Applications due: 3/1/85

Bachelor's by inst. 3041

Herbert W. Hethcote, Chairman

Faculty 0*, Published 0

Bachelor's by dept. 0

Graduate Students: full-time 8; full-time first year 2; part-time 0

Master's by dept. 0

Research Assistantship (3-4) 7000-8000 9 1472 15-20 Research

Ph. D. (81/84) AM 2. Total: 2

*Interdisciplinary program.

**DEPARTMENT OF MATHEMATICS**

**PURDUE UNIVERSITY**

GRADUATE PROGRAMS: The department invites applications for graduate study in programs leading to the Ph.D. degree in pure or applied mathematics, and the Master of Arts in Teaching degree. A special M.S. program in applied mathematics specifies seven core courses and suggests elective courses in numerical analysis, statistics, or mathematical physics, with the majority of graduates for the last seven years finding employment in industry, research laboratories, or government. The Departments of Mathematics, Statistics, and Computer Sciences, offer a wide range of mathematics courses that can also be supplemented by courses in engineering and science.

GRADUATE FACULTY: The Department of Mathematics currently has 137 graduate students. The research faculty is distributed according to the following mathematical areas: Algebra & Algebraic Geometry, Applied Mathematics, Complex Analysis, Differential Equations, Differential Geometry & Lie Groups, Functional Analysis, Harmonic Analysis, Logic, Mathematics Education, Numerical Analysis, Probability & Statistics, and Topology. An emphasis year on Optimal Design for Free Boundary Problems is planned for 1985-86.

HALF-TIME ASSISTANTS: Assistants usually teach four hours per week each semester. The salary range for two semesters (approximately August 15 to May 9) will be $6400 to $8600 plus a reduction in tuition.

FELLOWSHIPS: Purdue University Fellowships ($6000 for twelve months in 1984-85) and Black and Other Minorities Fellowships ($5000 for twelve months in 1984-85 plus allowances for dependents and for research).

SUMMER ASSISTANTSHIPS: A limited number of appointments are available for new students who start their first year in the summer session of 1985 (June 10 to August 7). The stipend will be $1200. In subsequent summer sessions, positions are available for assistants whose performance in course work and assistantship duties is satisfactory. The stipend is one fifth of the student's academic year salary.

FEES: For holders of half-time assistantships and fellowships, fees for 1984-85 are reduced from $2278 ($766 for a state resident) to $135 per semester and to $67.50 for summer.

APPLICATIONS: For application forms and information write to:

**GRADUATE OFFICE**

Department of Mathematics

Mathematical Sciences Building

Purdue University

West Lafayette, IN 47907
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<tr>
<th>TYPE OF ASSISTANCE</th>
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<td>hours per week of service</td>
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<tr>
<td>Arthur C. Fleck, Chairman</td>
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<tr>
<td>Graduate Students: full-time 74; full-time first year 28; part-time 26</td>
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<td>Research Assistantship (5)</td>
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<td>164-736</td>
<td>20 Research</td>
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<td>164-736</td>
<td>20 Teaching, research</td>
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<td><strong>STATISTICS AND ACTUARIAL SCIENCES</strong></td>
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<tr>
<td>John J. Birch, Acting Chairman</td>
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<tr>
<td>Graduate Students: full-time 61; full-time first year 15; part-time -</td>
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<td>Scholarship (20)</td>
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<td>*Partial tuition scholarship.</td>
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<td><strong>University of Northern Iowa, Cedar Falls 50614</strong></td>
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<td><strong>MATHEMATICS AND COMPUTER SCIENCE</strong></td>
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<tr>
<td>David Duncan, Head</td>
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<tr>
<td>Faculty 13; Published 7</td>
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<td>Graduate Students: full-time 5; full-time first year 5; part-time 3</td>
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<td>Graduate Assistantship (4)</td>
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<td>25</td>
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<td>*$33 per credit hour minus $35 for each tenth appointment time.</td>
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</table>

**Kansas State University, Manhattan 66506**

**COMPUTER SCIENCE** (Ad on p. 862)

| Teaching Assistantship (25) | 700-1000 | 9    | *          | 20 Teaching, research |
|                            |          | 9    |          |                  |

**UNIVERSITY OF NOTRE DAME**

**GRADUATE STUDIES IN MATHEMATICS**

**PROGRAM OF STUDY**

The purpose of the graduate program in mathematics is to give students the opportunity to develop into educated and creative mathematicians. In most instances the doctoral program starts with two years of basic training, including introductory and advanced course work in the fundamentals of algebra, analysis, geometry, and topology. This is followed by thesis work done in close association with one or more members of the faculty. Limited enrollment and the presence of several active groups of research mathematicians provide thesis opportunities in many areas of algebra, algebraic geometry, complex analysis, differential geometry, logic, partial differential equations, and topology.

**FINANCIAL AID**

All new students receive a stipend of up to $7500 and have no teaching duties the first year. They then become teaching assistants with a stipend of over $6500 and begin the three stages of supervised teaching provided by the department. A teaching assistant usually starts by doing tutorial work in freshman and sophomore calculus courses (4 classroom hours per week); this is followed by a variety of duties in advanced undergraduate courses; the final, lecturing stage involves independent teaching in the classroom. All doctoral students in mathematics also receive a full tuition fellowship. Support is available for citizens and noncitizens.

**APPLYING**

All applicants are urged to take the General Test and the mathematics test of the Graduate Record Examination. Application for these tests should be made to Educational Testing Service in Princeton, New Jersey 08541, or at 1947 Center Street, Berkeley, California 94705. While there is no final application date, completed forms should be filed before February 15. All applicants are considered without regard to race, sex, or religious affiliation.

**CORRESPONDENCE AND INFORMATION**

Professor William G. Dwyer, Chairman — Department of Mathematics

University of Notre Dame — P.O. Box 398 — Notre Dame, Indiana 46556
KANSAS STATE UNIVERSITY

Graduate Study in Mathematics

We offer a varied program of graduate study leading to the M.S. and Ph.D. degrees in mathematics. Particular strengths of the department are harmonic analysis, applied mathematics, and finite geometry. We also have faculty actively pursuing such other research areas as categorical topology, differential geometry, group theory, lattice theory, and number theory. We offer teaching assistantships that pay at least $800 per month and also have a substantial endowment for scholarships and fellowships.

All graduate students are afforded close contact with the senior faculty. For additional information and application forms write to:

Director of Graduate Studies
Department of Mathematics
Kansas State University
Manhattan, KS 66506
Pittsburg State University, Pittsburg 66762

MATHEMATICS
Application due: 3/1/85
Helen Kriegsman, Chairman
Graduate Students: full-time 6; full-time first year 3; part-time 2
Teaching Assistantship (4) 3800 9 459 6

University of Kansas, Lawrence 66045

MATHEMATICS
Application due: 3/1/85
Charles J. Himmelberg, Chairman
Graduate Students: full-time 23; full-time first year 7; part-time 9
Teaching Assistantship (45) 7000-7500 9 32/sem. cr. hr.
Scholarship ** Tuition and fees 9
*Fellowships: 2/22/85; assistantships: 3/15/85 for first consideration.
**All graduate students eligible, including teaching assistants.

Wichita State University, Wichita 67208

MATHEMATICS AND STATISTICS
Application due: 3/1/85
John J. Hutchinson, Chairman
Graduate Students: full-time 25; full-time first year 12; part-time 8
Teaching Assistantship (17) 6500 9 400 20 Teaching

Kentucky

Murray State University, Murray 42071

MATHEMATICS
Application due: 3/15/85
Donald Bennett, Chairman
Graduate Students: full-time 5; full-time first year 3; part-time 7
Teaching Assistantship (4) 3600-4000 9 846 6 Teaching

DEGREE PROGRAMS The Department of Mathematics offers graduate programs leading to the M.A. and Ph.D. degrees. Programs for these degrees can be designed to emphasize either pure or applied mathematics or statistics. A broad range of programs is possible, as the faculty is actively engaged in research in a variety of areas including algebra, analysis, functional analysis, operator theory, set theory, number theory, topology, combinatorics, differential equations, control theory, theoretical physics, numerical analysis, probability and statistics.

FINANCIAL AID Teaching assistantships will have stipends between $7000 and $8000 per academic year. Outstanding students may either supplement or replace teaching assistant stipends through scholarships or faculty NSF grants. Summer support is also available from teaching assistantships, scholarships and grants.

FEES Approximately $22.00 per semester credit hour. Outstanding applicants may have their fees paid by a fee scholarship.

APPLY TO: Director of Graduate Studies
Department of Mathematics
University of Kansas
Lawrence, KS 66045-2142
University of Kentucky, Lexington 40506

Computer Science
Applications due: 2/1/85
Teaching Assistantship (20) 5490 9 1228 20 Teaching

Mathematics
Applications due: 2/1/85
Dean's Fellowship (1) 10000 9 10 Teaching Ph. D. (81/84) AFA 1, GT 2,
Teaching Fellowship (7) 8200-8500 9 10 Teaching OR 2, AM 1. Total: 6
Teaching Assistantship (40) 5700-6200 9 20 Teaching

Statistics
Applications due: 2/1/85
Fellowship (2) 5600 9 1228 Ph. D. (81/84) S 8. Total: 8
Teaching Assistantship (15) 5900-6200 9 1228 20
Research Assistantship (3) 4224-7003 9 1228 10

University of Louisville, Louisville 40292

Mathematics
Applications due: 4/15/85
Teaching Assistantship (5) 6850-7050 9 Waived 6* Teaching
Research Assistantship (1) 5500 9 * 10 Research
Graduate Instructorship (15) 9090 9 * 9* Teaching

*Resident: $68 per hour; nonresident: $195 per hour.

Dean's Fellowships in Mathematics
University of Kentucky
$10,000/9 months plus paid tuition, renewable

For doctoral students of exceptional promise. The stipend includes that from a half-time Teaching Assistantship entailing one course per semester of three or four contact hours per week. Applications are invited for the academic year 1985–86, and will also be considered for other forms of support, including other Fellowships and Assistantships. For several years all graduate students in mathematics have been fully supported.

The faculty of 47 is distinguished, and carries on research in a diversity of fields in pure and applied mathematics. There are 43 graduate students, 26 of whom are studying for the Ph.D. Many are quite talented, and the academic environment is stimulating, challenging, and supportive.

More information and application materials are available from:

Director of Graduate Studies
Department of Mathematics
University of Kentucky
Lexington, KY 40506-0027

(606) 257-4653

Supported by the Chancellor, the Dean of the Graduate School, and the Dean of the College of Arts and Sciences.
Western Kentucky University, Bowling Green 42101

**MATHEMATICS Applications**

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<tr>
<td>Robert C. Bueker, Head</td>
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<td>Faculty 29; Published 4</td>
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<td>Graduate Students: full-time 2, full-time first year 2, part-time 6</td>
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| Teaching Assistantship (5) | 3500-4000 | 9 | 964 | 15 | Teaching, tutorials |

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<tr>
<td>Faculty 22; Published 10</td>
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<tr>
<td>Graduate Students: full-time 60, full-time first year 15, part-time 40</td>
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</table>

<table>
<thead>
<tr>
<th>J. R. Dorroh, Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty 39; Published 35</td>
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<tr>
<td>Graduate Students: full-time 36, full-time first year 11, part-time 2</td>
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| Fellowship (2) | 10000 | 12 |
|-------------------------------|
| Teaching Assistantship (14) | 6000-8000 | 12 | 20 | Teaching |
| Research Assistantship (6) | 8000 | 12 | 20 | Research |

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<td>Faculty 39; Published 35</td>
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<td>Graduate Students: full-time 36, full-time first year 11, part-time 2</td>
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| Fellowship (4) | 10000 | 12 | 204 |
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| Teaching Fellowship (5) | 8000 | 9 | 204 | 6 |
| Teaching Assistantship (42) | 6800 | 9 | 204 | 6 |

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<td>Graduate Students: full-time 36, full-time first year 11, part-time 2</td>
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| Fellowship (4) | 10000 | 12 | 204 |
|-------------------------------|
| Teaching Fellowship (5) | 8000 | 9 | 204 | 6 |
| Teaching Assistantship (42) | 6800 | 9 | 204 | 6 |

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<td>Faculty 39; Published 35</td>
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<td>Graduate Students: full-time 36, full-time first year 11, part-time 2</td>
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| Fellowship (4) | 10000 | 12 | 204 |
|-------------------------------|
| Teaching Fellowship (5) | 8000 | 9 | 204 | 6 |
| Teaching Assistantship (42) | 6800 | 9 | 204 | 6 |

**Louisiana State University, Baton Rouge 70803**

**COMPUTER SCIENCE**

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<td>Walter G. Rudd, Chairman</td>
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<td>Graduate Students: full-time 60, full-time first year 15, part-time 40</td>
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<td>Master's by dept.</td>
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<td>Graduate Students: full-time 36, full-time first year 11, part-time 2</td>
</tr>
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| Fellowship (4) | 10000 | 12 | 204 |
|-------------------------------|
| Teaching Fellowship (5) | 8000 | 9 | 204 | 6 |
| Teaching Assistantship (42) | 6800 | 9 | 204 | 6 |

**QUANTITATIVE BUSINESS ANALYSIS**

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<tr>
<th>Faculty</th>
<th>1985-1986</th>
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<td>Michael H. Peters, Chairman</td>
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<tr>
<td>Graduate Students: full-time 20, full-time first year 5, part-time 2</td>
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<tr>
<th>PhD. by inst.</th>
<th>2824</th>
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<td>Master's by dept.</td>
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<tr>
<th>Mathematics</th>
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<tr>
<td>Faculty 22; Published 10</td>
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<tr>
<td>Graduate Students: full-time 60, full-time first year 15, part-time 40</td>
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<table>
<thead>
<tr>
<th>J. R. Dorroh, Chairman</th>
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<tbody>
<tr>
<td>Faculty 39; Published 35</td>
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<tr>
<td>Graduate Students: full-time 36, full-time first year 11, part-time 2</td>
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| Fellowship (4) | 10000 | 12 | 204 |
|-------------------------------|
| Teaching Fellowship (5) | 8000 | 9 | 204 | 6 |
| Teaching Assistantship (42) | 6800 | 9 | 204 | 6 |

**MATHEMATICS GRADUATE PROGRAM**

**at LSU**

**Degree Programs**

- A traditional plan of doctoral studies providing a background in modern mathematics and requiring a dissertation which makes an original and interesting contribution in mathematics research. Such a program may involve a minor outside mathematics;
- An alternative plan of doctoral studies (conducted with the help of the Department of Computer Science) including both a liberal education in modern mathematics and a minor in computer science, and requiring a dissertation in computer-related or other applied mathematics;
- Flexible master's programs (Master of Science, Master of Arts, Master of Natural Sciences) preparing students for entry into a doctoral program or for a variety of employment opportunities.

**Financial Aid**

Graduate teaching assistantships are available with a stipend of $9,800 for the 1985-86 academic year. Duties involve teaching six hours of freshman level mathematics per week. Applications for assistantships should be received by March 15.

**Alumni Federation Graduate Fellowships**

Applicants with excellent credentials are considered for departmental teaching fellowships paying $8,000 a year and are placed in a university-wide competition for 30 LSU Alumni Federation Graduate Fellowships. The Alumni fellowships pay $10,000 per year tax free and carry no teaching duties. Graduate assistants and fellows are exempt from all tuition and University fees except for a nominal activity fee each semester. The application deadline (including the receipt of three letters of recommendation) for fellowship consideration is February 10, 1985.

**Graduate Faculty and Research Areas**

- ALGEBRAIC AND DIFFERENTIAL TOPOLOGY: P. E. Conner (Princeton), P. M. Giltner (Berkeley), N. Stolzhus (Princeton), S. H. Weintraub (Princeton), R. Litherland (Cambridge)
- COMBINATORICS AND GRAPH THEORY: B. Bollobas (Budapest, Cambridge), J. G. Oxley (Oxford), K. B. Reid (Illinois), Y. Cheng (Yale)
- COMMUTATIVE ALGEBRA and ALGEBRAIC NUMBER THEORY: H. S. Butts (Ohio State), C. M. Cordes (Maryland), J. Huneke (Illinois), R. Perlis (M.I.T.)
- FUNCTIONAL ANALYSIS: M. Altman (Faklok), B. Bollobas (Budapest, Cambridge), H. S. Collins (Tulane), J. R. Dorroh (Texas), J. R. Retherford (Florida State), L. Weiss (Bonn)
- HARMONIC ANALYSIS: R. C. Fabec (Colorado), D. C. Meger (Yale), L. F. Richardson (Yale), J. Ogan (Wisconsin), M. Davidson (Iowa)
- INFINITE DIMENSIONAL TOPOLOGY: D. W. Curtis (Ohio State)
- DIFFERENTIAL EQUATIONS: PDE's: C. E. Collins (Indiana), J. R. Dorroh (Texas), G. Ferreyra (Rutgers), R. Schilling (Arizona)
- PROBABILITY: H.-H. Kuo (Cornell), D. M. Klein (Cornell)
- TOPOLOGICAL ALGEBRA: J. A. Hildebrandt (Tennessee), R. J. Koch (Tulane), J. D. Lawson (Tennessee)

For more information and an application form write to: Associate Professor Robert V. Perils • Director of Graduate Studies Department of Mathematics • Louisiana State University • Baton Rouge, LA 70803-4918

865
M A T H E M A T I C S  A N D  S T A T I S T I C S

The Ph.D. program provides a broad background in mathematics and requires a dissertation consisting of original and significant research. Besides the traditional mathematical areas, the Ph.D. program may concentrate on statistics or on numerical computation.

The Master's degree programs (Master's in Mathematics, Master's in Applied Statistics, Master's in Applied Mathematics) are tailored to the students' interests and often involve coursework in other departments at the university. They prepare the student either for a variety of employment opportunities or for the Ph.D. program.

F I N A N C I A L  A I D

The teaching assistantship consists of a stipend of $5800-$6000 and a tuition waiver. The duties consist of four hours of teaching per week. Special teaching fellowships paying $8000 per year are also available to exceptional, advanced graduate students. Applications for these positions should be received by February 1, 1984 but later applications will also be considered.

G R A D U A T E  F A C U L T Y  A N D  R E S E A R C H

A R E A S

Algebra: A. Clifford (Caltech), J. Dauns (MIT), L. Fuchs (Budapest), F. Grillet (Paris).
Numerical Computation: R. Miller (Berkeley), G. Sod (Berkeley).
Relativity: F. Tipler (Maryland).
Topological Algebra: M. Dugre (Pennsylvania), H. Kosaki (UCLA), J. Liukkonen (Columbia), M. Mislove (Tennessee).
Topology: R. Fintushel (SUNY at Binghamton), R. Knill (Notre Dame), T. Lawson (Stanford), J. Rogers (U. of California, Riverside).

For more information write to:
Professor Jerry Goldstein
Chairman, Graduate Studies Committee
Mathematics Department
Tulane University
New Orleans, Louisiana 70118

866
<table>
<thead>
<tr>
<th>TYPE OF ASSISTANCE (number anticipated 1985-1986)</th>
<th>STIPEND paid to student</th>
<th>FEES paid by student</th>
<th>SERVICE REQUIRED hours per week</th>
<th>DEGREES AWARDED Academic year 1983-1984</th>
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<td>MATHEMATICS AND STATISTICS</td>
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<tr>
<td>Vic Schneider, Chairman</td>
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<td>Applications due: 4/1/85</td>
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<td>Graduate Students: full-time 32; full-time first year 10; part-time 6</td>
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<td>University of Maine at Orono 04469</td>
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<td>MATHMATICS</td>
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<td>BIOSTATISTICS</td>
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<td>Charles A. Rohde, Chairman</td>
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<tr>
<td>Robert J. Serfling, Chairman</td>
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<td>Applications due: 2/15/85*</td>
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<tr>
<td>Graduate Students: full-time 22; full-time first year 6; part-time 9</td>
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<td>Teaching Fellowship (1)</td>
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<td>ELECTRICAL ENGINEERING AND COMPUTER SCIENCE</td>
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<tr>
<td>F. M. Davidson, Chairman</td>
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<tr>
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<td>260** 10</td>
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<td>260** 10</td>
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<tr>
<td>**First year only.</td>
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</table>

The Department of Mathematics and Statistics of the University of Southwestern Louisiana is pleased to offer University Fellowships to highly qualified students who wish to obtain a Doctor of Philosophy degree. These 12 month fellowships range from $8,500 to $12,500. They are renewable for three years, no duties are required, and preference for university housing will be given. Applications are welcomed from superior students possessing a bachelor's and/or masters degree.

Information and application materials may be obtained from: Dr. V.P. Schneider (Mathematics) and Dr. T. L. Boulion (Statistics). Completed applications must be received by February 1, 1985.

Department of Mathematics and Statistics
The University of Southwestern Louisiana
P. O. Box 41010
Lafayette, Louisiana 70504-1010
<table>
<thead>
<tr>
<th>TYPE OF ASSISTANCE</th>
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<th>DEGREES AWARDED</th>
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<td></td>
<td>(number anticipated)</td>
<td>paid to student dollars</td>
<td>paid by student ($)</td>
<td>hours per week</td>
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**Morgan State University, Baltimore 21239**

**Mathematics and Computer Science**
Applications due: 2/1/85
Graduate Students: full-time 2; full-time first year 7; part-time 6

<table>
<thead>
<tr>
<th>Teaching Fellowship (3)</th>
<th>3000-4000</th>
<th>9</th>
<th>20</th>
<th>6*</th>
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**University of Maryland Baltimore County, Catonsville 21228**

**Mathematics and Computer Science**
Applications due: 3/31/85
Graduate Students: full-time 20; full-time first year 10; part-time 50

<table>
<thead>
<tr>
<th>Teaching fellowship (25)</th>
<th>6000-8000</th>
<th>12</th>
<th>Research</th>
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<tr>
<td>Research Assistantship (1)</td>
<td>6480-7730</td>
<td>10</td>
<td>15</td>
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**University of Maryland, College Park 20742**

**Mathematics**
Applications due: 3/1/85
Graduate Students: full-time 130; full-time first year 54; part-time 85

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<th>Fellowship (7)</th>
<th>6000-6300</th>
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<th>6*</th>
<th>Teaching</th>
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<td>Research Assistantship (17)</td>
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<td>15</td>
<td>Research</td>
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**Massachusetts**

**Boston College, Chestnut Hill 02167**

**Mathematics**
Applications due: 3/15/85
Graduate Students: full-time 11; full-time first year 4; part-time 2

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<th>Fellowship (10)</th>
<th>6000-6300</th>
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<th>Teaching</th>
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<td>6050</td>
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<td>Research</td>
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**Boston University, Boston 02215**

**Computer Science**
Applications due: 2/1/85
Graduate Students: full-time 82; full-time first year 10; part-time 9

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<th>Teaching Fellowship (13)</th>
<th>6050</th>
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<th>15-20</th>
<th>Grading, teaching</th>
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<tr>
<td>University Fellowship (Varies)</td>
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<td></td>
<td>Research</td>
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**Brandeis University, Waltham 02254**

**Mathematics**
Applications due: 2/15/85
Graduate Students: full-time 37; full-time first year 14; part-time 0

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<th>8-10</th>
<th>Teaching, grading</th>
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<td>Varies</td>
<td>Full</td>
<td>4-20</td>
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*Students may hold multiple awards.

**Harvard School of Public Health, Boston 02115**

**Biostatistics**
Applications due: 3/15/85
Graduate Students: full-time 34; full-time first year 8; part-time 3

<table>
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<tr>
<th>Fellowship (10)</th>
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<td>Full</td>
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**Harvard University, Cambridge 02138**

**Applied Sciences Division, Computer Science**
Applications due: 12/31/84
Graduate Students: full-time 27; full-time first year 7; part-time 8

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<tr>
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<th>Grading</th>
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</table>

Graduate Study in Mathematics at
UNIVERSITY OF MARYLAND, COLLEGE PARK

Ph.D. and M.A. degrees are available in each of the three Graduate Programs:

○ MATH  The Mathematics Program
  The Department is strongly represented in Analysis, Topology, Geometry, Number Theory, Logic, Differential Equations, and Numerical Analysis, allowing the student to develop expertise in a variety of areas.

○ MAPL  The Interdisciplinary Applied Mathematics Program
  The Program is sponsored by 12 departments and offers a flexible course of study which combines mathematics with an area of application (such as Physics, Operations Research, Fluid Dynamics, Computer Software, Continuum Mechanics, Systems and Control Theory, etc.)

○ STAT  The Mathematical Statistics Program
  This is a flexible program enabling students to emphasize either mathematical aspects (such as Asymptotic Theory, Stochastic Processes) or applications of statistics (such as Biostatistics, Time Series, Analysis of Variance).

MATH—STAT FACULTY: There are about 100 faculty members, including a number of Guggenheim and Sloan fellows. Many of the faculty members are internationally recognized in their field.

MAPL FACULTY: There are over 100 participating faculty members, drawn from the Departments of Mathematics; Aerospace, Chemical, Civil, Electrical, and Mechanical Engineering; Computer Science; Meterology; Physics; Economics; Business and Management; as well as the Mathematical Statistics Program, the Public Management Program and the Institute for Physical Science and Technology. Again, this faculty is comprised of many highly distinguished members.

RESEARCH CLIMATE: There is an active seminar program which features a number of distinguished visitors from throughout the world, as well as internal speakers. In addition, each year is designated a "Special Year" in a particular area of mathematics.

FINANCIAL AID: Teaching assistantships are readily available to qualified students. Fellowships to outstanding applicants and Work-Study Programs with various government agencies (e.g., NBA, NSA and NSWL) are available.

FOR FURTHER INFORMATION, PLEASE WRITE TO:
Mathematics Graduate Committee
Department of Mathematics
UNIVERSITY OF MARYLAND
College Park, MD 20742
<table>
<thead>
<tr>
<th>TYPE OF ASSISTANCE</th>
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<td>hours per week</td>
<td>Academic year</td>
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<td>3480-3960*</td>
<td>9</td>
<td>0</td>
<td>Master's by dept. 5</td>
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<tr>
<td>Research Assistantship (9)</td>
<td>***</td>
<td>12</td>
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<td>Master's by dept. 5</td>
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<tr>
<td>Scholarship (6)</td>
<td>****</td>
<td>9</td>
<td>0</td>
<td>Master's by dept. 5</td>
</tr>
<tr>
<td>*1984-1985 rate for one-fifth time over nine months.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>**4 hours contact, 1 hour teaching, 4 hours grading.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>***Base rate $19,200.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>****According to need.</td>
<td></td>
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</tr>
</tbody>
</table>

**Massachusetts Institute of Technology, Cambridge 02139**

**MATHEMATICS**

Applications due: 1/15/85

Arthur Mattuck, Chairman

Faculty 85; Published 65

Graduate Students: full-time 134; full-time first year 40; part-time 0

Fellowship (15)

6075-7966

9 *

Ph. D. (81/84) ANT 10, AFA 5, GT 11, L 1, P 7, S 2, CS 2, OR 1, AM 8, Other 2. Total: 49

Teaching Assistantship (33)

6000

4-8 Grading, workshop

S 1, AM 1, Other 2. Total: 6

Tuitionship (4)

*Three hours teaching and three hours conference.

**An appropriate tuition scholarship is provided with each Teaching Assistantship.

**Boston University, Boston 02155**

**MATHEMATICS**

Applications due: 3/15/85

Richard Weiss, Chairperson

Faculty 43; Published 26

Graduate Students: full-time 70; full-time first year 35; part-time 300

Teaching Assistantship (14)

6000

9 *

Ph. D. (81/84) CS 17. Total: 17

Scholarship (3)

9 *

*An appropriate tuition scholarship is provided with each Teaching Assistantship.

**University of Lowell, Lowell 01854**

**MATHEMATICS**

Applications due: 4/30/85

Alan W. Doerr, Chairperson

Faculty 43; Published 26

Graduate Students: full-time 70; full-time first year 35; part-time 300

Teaching Assistantship (14)

6000

9 *

*An appropriate tuition scholarship is provided with each Teaching Assistantship.

**University of Massachusetts at Amherst 01003**

**COMPUTER AND INFORMATION SCIENCE**

Applications due: 2/15/85

Edward M. Riseman, Chairman

Faculty 24; Published 24

Graduate Students: full-time 181; full-time first year 56; part-time 480

Fellowship (4)

3000-7000

9 *

Ph. D. (81/84) CS 17. Total: 17

Teaching Assistantship (40)

6000

9 *

Teaching, grading

Research Assistantship (90)

8000-10000

12 *

Teaching, grading

**MATHEMATICS AND STATISTICS**

Applications due: 2/1/85

Larry N. Mann, Head

Faculty 62; Published 39

Graduate Students: full-time 57; full-time first year 18; part-time 2

Fellowship (3)

3000-6000

9 *

Ph. D. (81/84) ANT 5, GT 3, AM 1, AM 2. Total: 11

Teaching Assistantship (45)

4800-5200

9-12 *

Teaching, grading

Research Assistantship (1)

4800-5200

12 *

Research
# Michigan

Central Michigan University, Mt. Pleasant 48859

**MATHEMATICS**

- Applications due: 4/1/85
- Bachelor's by inst. 2793
- Bachelor's by dept. 47

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
</tr>
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<tbody>
<tr>
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<td>63.50/ct. hr. 6'</td>
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<td>Teaching Assistantship (10)</td>
<td>5300-5500</td>
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<td>63.50/ct. hr. 6'</td>
<td>Master's by dept. 3</td>
</tr>
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</table>

**DEGREES AWARDED**

- Bachelor's by inst. 2793
- Bachelor's by dept. 47
- Master's by dept. 3

Eastern Michigan University, Ypsilanti 48197

**MATHEMATICS AND COMPUTER SCIENCE**

- Applications due: 4/30/85
- Bachelor's by inst. 2400
- Bachelor's by dept. 85

<table>
<thead>
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<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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<tbody>
<tr>
<td>Graduate Assistantship (1 or 2)</td>
<td>3800-4000</td>
<td>9</td>
<td>* 20 Varies</td>
<td>Master's by dept. 6</td>
</tr>
</tbody>
</table>

*Tuition is waived up to eight (8) semester hours per full-time appointment for both the Fall and Winter semesters.

Michigan State University, East Lansing 48824

**MATHEMATICS**

- Applications due: 4/1/85
- Bachelor's by inst. 6200
- Bachelor's by dept. 55

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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<tr>
<td>Teaching Assistantship (125)</td>
<td>7560-7920</td>
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<td>1600 4-8</td>
<td>Ph. D. (81/84) ANT 1, AFA 4, GT 3, AM 7. Total: 15</td>
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<td>Scholarship (2)</td>
<td>7500</td>
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<td>1600</td>
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**STATISTICS AND PROBABILITY**

- Applications due: 4/1/85
- Bachelor's by inst. 6200
- Bachelor's by dept. 0

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<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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<tr>
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<td>7000-8000</td>
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<td>2250</td>
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<td>Teaching Assistantship (25)</td>
<td>7200-7815</td>
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<td>2250</td>
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<tr>
<td>Scholarship (2)</td>
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<td>2250</td>
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Michigan Technological University, Houghton 49931

**MATHEMATICAL AND COMPUTER SCIENCES**

- Applications due: Open
- Bachelor's by inst. 1428
- Bachelor's by dept. 69

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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<td>Teaching Assistantship (15-20)</td>
<td>5700</td>
<td>9</td>
<td>5-8 Teaching</td>
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Oakland University, Rochester 48063

**MATHEMATICAL SCIENCES**

- Applications due: 3/15/85
- Bachelor's by inst. 1400
- Bachelor's by dept. 9

<table>
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<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
</tr>
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<tbody>
<tr>
<td>Teaching Assistantship (3)</td>
<td>6000-6500</td>
<td>9</td>
<td>20 Teaching, grading</td>
<td></td>
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</tbody>
</table>

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**University of Massachusetts at Amherst**

**GRADUATE STUDIES.** M.A. and Ph.D. programs in pure and applied mathematics and statistics. Active departmental and interdisciplinary research environment.

**TEACHING ASSISTANTSHIPS.** 3-4 contact hours/week. Tuition waiver. Possible summer teaching. Fellowships for qualified applicants.

**ATTRACTIVE LOCATION.** Five college area in the beautiful Pioneer Valley. Easy access to Boston and New England ski and recreation areas. University housing available. Free local bus system. For information write Director of Graduate Admissions Department of Mathematics and Statistics University of Massachusetts Amherst, Massachusetts 01003

---

871
University of Michigan, Ann Arbor 48109

MATHEMATICS
D. J. Lewis, Chairman
Applications due: 2/1/85
Graduate Students: full-time 160; full-time first year 55; part-time –

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend Fees</th>
<th>Service Required</th>
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<tbody>
<tr>
<td>Fellowship (6)</td>
<td>4000-6400</td>
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<tr>
<td>Teaching Assistantship (97)</td>
<td>6960-8500</td>
<td>8 695/term</td>
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<td>Student Assistantship (50)</td>
<td>740-1600</td>
<td>8</td>
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*Residents: $1600 per term.

Western Michigan University, Kalamazoo 49008

COMPUTER SCIENCE
J. Donald Nelson, Chairperson
Applications due: 3/15/85
Graduate Students: full-time 102; full-time first year 54; part-time –

| Fellowship (Varies)         | 5000         | 8                |
| Teaching Assistantship (16) | 5000         | 8 4              |
| Research Assistantship (Varies) | 4000-5000 | 8 20             |

WAYNE STATE UNIVERSITY
GRADUATE STUDY IN MATHEMATICS

The Mathematics Department offers graduate programs leading to the M.A. and Ph.D. degrees. Master's degrees are offered in mathematics, applied mathematics, and statistics. Doctoral students may specialize in a variety of areas, including combinatorics, algebra, classical and functional analysis, differential equations, geometry and topology, probability and statistics, and applied mathematics. The department presently includes forty-eight full-time faculty, and a favorable student/faculty ratio allows for individual attention.

Financial support includes teaching assistantships with stipends in the range $5,000-$6,550 together with a waiver of tuition up to 10 credit hours and health insurance. Fellowships and housing allowances are also available to well-qualified students. The suggested deadline for completion of applications is Feb. 25; applicants meeting this deadline will be notified in time to respond by April 15. Late applications, however, will be accepted as long as openings remain.

Direct inquiries to: Togo Nishiura, Chairman
Department of Mathematics
Wayne State University
Detroit, Michigan 48202

Wayne State University is an Equal Opportunity/Affirmative Action Employer.
Western Michigan University

The Mathematics Department at Western Michigan University consists of 33 full-time faculty members with specialists in most areas of mathematics and statistics.

**DEGREE PROGRAMS**

WMU offers master’s degrees in Mathematics, Biostatistics, Statistics, (Applied or Theoretical options available), Applied Mathematics and Mathematics Education. In addition to the Ph.D. in Mathematics, the department also offers a Ph.D. in Mathematics with a concentration in Statistics, a concentration in Graph Theory and Computer Science, or a concentration in college mathematics teaching.

**SPECIAL OPPORTUNITIES**

The WMU Math Department is internationally acclaimed in the field of graph theory. In 1984 the Department hosted the Fifth International Research Conference on the Theory and Applications of Graphs with special emphasis on algorithms and computer science applications. A unique Master’s in Biostatistics, developed in cooperation with the pharmaceutical industry, trains graduates to meet needs of prospective employers.

Paid internships are included in programs in Biostatistics and Applied Statistics.

**FINANCIAL ASSISTANCE**

In 1985 Graduate Teaching Assistantships with a stipend of $5,750 are available for the academic year. Doctoral Fellowships of $6,000 are also available. Additional $1,250 assistantships are available for Spring or Summer term. Applications for Fellowships are due by February 15. Assistantships by March 1. Late applications for assistantships will be accepted if openings remain. Remission of out-of-state tuition is expected to be available.

For additional information contact:

Dr. Joseph Buckley
Department of Mathematics
Western Michigan University
Kalamazoo, MI 49008-3899

WMU is an Equal Opportunity/Affirmative Action Institution.
<table>
<thead>
<tr>
<th>TYPE OF ASSISTANCE</th>
<th>STIPEND</th>
<th>FEES</th>
<th>SERVICE REQUIRED</th>
<th>DEGREES AWARDED</th>
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<td></td>
<td>paid to student</td>
<td>paid by student (dollars)</td>
<td>hours/weeks</td>
<td>Academic year</td>
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<tr>
<td></td>
<td>paid to student</td>
<td>paid by student (months)</td>
<td>per week</td>
<td>Academic year</td>
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<td>service</td>
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**University of Minnesota, Minneapolis 55455**

**BIOMETRY**
Faculty 9; Published 8
Graduate Students: full-time 20; full-time first year 6; part-time 10

<table>
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<tr>
<th>Fellowship (3)</th>
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<tr>
<td>Teaching Assistance (5)</td>
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<td>Research Assistance (4)</td>
<td>10140</td>
<td>12 10-20</td>
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</table>

**COMPUTER SCIENCE**
Applications due: 2/1/85
Graduate Students: full-time 200; full-time first year 50; part-time 40

<table>
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<tr>
<th>Fellowship (12)</th>
<th>10000-14000</th>
<th>9 0-10</th>
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<td>Teaching Assistantship (10)</td>
<td>2700</td>
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</tr>
<tr>
<td>Research Assistantship (10)</td>
<td>2700</td>
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</tbody>
</table>

**MATHEMATICS**
Faculty 80; Published 71
Graduate Students: full-time 138, full-time first year 45; part-time 0

<table>
<thead>
<tr>
<th>Fellowship (1-3)</th>
<th>6840</th>
<th>9</th>
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<tbody>
<tr>
<td>Teaching Fellowship (1-6)</td>
<td>11290</td>
<td>9 2714 2 Teaching</td>
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<td>Teaching Assistancehip (110)</td>
<td>8900-9700</td>
<td>9 2714 4.5 Teaching</td>
</tr>
<tr>
<td>Research Assistantship (4)</td>
<td>4450-4850</td>
<td>9 2714 2-3 Research</td>
</tr>
<tr>
<td>Summer Teaching Assistantship (27)</td>
<td>2305-2375</td>
<td>1.5 2714 10 Research</td>
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<tr>
<td>Summer Fellowship (24)</td>
<td>1800-1900</td>
<td>2 2714</td>
</tr>
</tbody>
</table>

*Fellowships: 2/1/85; assistantships: open.

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**Mathematics at Minnesota**

The University of Minnesota offers graduate programs leading to the M.S. and Ph.D. degrees. There are seventy-nine full-time faculty members. Almost all areas of mathematics are represented, with particular strengths in analysis and applied mathematics. The Institute for Mathematics and Its Applications, located in the Mathematics building, enhances the research atmosphere at Minnesota. There are extensive opportunities for interaction with various engineering, science, and social science departments. The faculty-student ratio is 3:4, there is an excellent library, and the Twin Cities area is a pleasant one to live in. Teaching Assistantships and Fellowships are available. Write to:

**Professor John A. Eagon**

School of Mathematics
127 Vincent Hall, 206 Church St. S.E.
University of Minnesota
Minneapolis, Minnesota 55455

---

874
Mississippi

Jackson State University, Jackson 39217

MATHMATICS
Roosevelt Gentry, Head
Graduate Students: full-time 10; full-time first year 5; part-time 30

Teaching Fellowship (8) 2665
Teaching Assistantship (1) 2665
Research Assistantship (3) 2500

Mississippi State University, Mississippi 39762

BUSINESS INFORMATION SYSTEM & QUANTITATIVE
E. R. Callahan, Jr., Head

Teaching Assistantship (3) * 6050**
Research Assistantship (1) * 6050**
Graduate Assistantship (3) ***

*Doctorate in Business Administration.
**All out-of-state fees are waived also.
***Master of Science in Business Administration.

University of Southern Mississippi, Hattiesburg 39401

COMPUTER SCIENCE
Danny R. Carter, Chair

Teaching Assistantship (10) 4500-5000
Research Assistantship (2) 7000-8000

Mississippi

MATHEMATICS
Steve Doblin, Chair

Teaching Assistantship (6-9) 4700-6700
Part-time Instructorship* 900-3600
Tutor/Teaching Assistantship* 3.10/hr.-5/hr.

*Several.
**Out-of-state: $2122.

Missouri

Central Missouri State University, Warrensburg 64093

MATHMATICS AND COMPUTER SCIENCE
Edward Davenport, Chair

Teaching Assistantship (4) 1800-3600

Northeast Missouri State University, Kirksville 63501

MATHMATICS
Lanny Morley, Head

Teaching Assistantship (6) 7800

Saint Louis University, St. Louis 63103

MATHMATICS AND COMPUTER SCIENCE
Raymond Freese, Chairman

Teaching Assistantship (11) 4200

*Six hours tuition remission each semester plus health and medical paid (brings total value to $6500).

875
### Southeast Missouri State University, Cape Girardeau 63701

**MATHEMATICS**

- Harold W. Hager, Chairman
- Applications due: 3/1/85
- Graduate Students: full-time 4; full-time first year 3; part-time 4

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>DEGREES AWARDED</th>
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<td>Teaching Assistantship (60)</td>
<td>7100–7500</td>
<td>9</td>
<td>56/cr. hr. 6–7</td>
<td>Ph. D. (81/84) ANT 1, AFA 1, GT 1, AM 1. Total: 4</td>
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<tr>
<td>Scholarship (2)</td>
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<tr>
<td>STATISTICS</td>
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<td></td>
</tr>
<tr>
<td>John E. Hewett, Chairperson</td>
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<tr>
<td>Fellowship (1)</td>
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<td>1685 20</td>
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<tr>
<td>Research Assistantship (4)</td>
<td>7000</td>
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<td>1685 20</td>
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</tbody>
</table>

*Late applications considered if positions are still available.

**University of Missouri–Columbia 65211**

**MATHEMATICS**

- F. Dennis Sentilles, Chair
- Applications due: 2/15/85
- Graduate Students: full-time 28; full-time first year 5; part-time 0

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>DEGREES AWARDED</th>
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<tr>
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<td>Teaching Assistantship (60)</td>
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<td>56/cr. hr. 6–7</td>
<td>Ph. D. (81/84) ANT 1, AFA 1, GT 1, AM 1. Total: 4</td>
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<tr>
<td>Scholarship (2)</td>
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<td>STATISTICS</td>
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<tr>
<td>John E. Hewett, Chairperson</td>
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<tr>
<td>Fellowship (1)</td>
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<td>Ph. D. (81/84) S 5. Total: 5</td>
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<tr>
<td>Teaching Assistantship (19)</td>
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<td>1685 20</td>
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<tr>
<td>Research Assistantship (4)</td>
<td>7000</td>
<td>9</td>
<td>1685 20</td>
<td></td>
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</tbody>
</table>

*Late applications considered if positions are still available.

**University of Missouri–Kansas City 64110**

**MATHEMATICS**

- Paul Liebnitz, Chairman
- Applications due: 5/15/85
- Graduate Students: full-time 15; full-time first year 4; part-time 11

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>DEGREES AWARDED</th>
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<tr>
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<td>800 6</td>
<td>Ph. D. (81/84) AFA 1, AM 1. Total: 2</td>
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</tbody>
</table>

*To be sure of consideration.

**University of Missouri–Rolla 65401**

**ENGINEERING MECHANICS**

- Peter G. Hansen, Chairman
- Applications due: 3/15/85
- Graduate Students: full-time 23; full-time first year 5; part-time 26

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>DEGREES AWARDED</th>
</tr>
</thead>
<tbody>
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<td>1600 20</td>
<td>Master's by dept. 10</td>
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<tr>
<td>Research Assistantship (4)</td>
<td>8200</td>
<td>9</td>
<td>1600 20</td>
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<tr>
<td>MATHMATICS AND STATISTICS</td>
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<td></td>
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<tr>
<td>Louis Grimm, Chairman</td>
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<tr>
<td>Teaching Assistantship (35)</td>
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<td>9</td>
<td>6–7</td>
<td>Ph. D. (81/84) AFA 1, S 3. Total: 4</td>
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<tr>
<td>Research Assistantship (1)</td>
<td>8200</td>
<td>9</td>
<td>20 Research</td>
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</tbody>
</table>

*Late applications considered if positions are still available.

**Washington University, St. Louis 63130**

**MATHEMATICS**

- Robert H. McDowell, Chairman
- Applications due: 2/15/85
- Graduate Students: full-time 33; full-time first year 10; part-time 6

<table>
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<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>DEGREES AWARDED</th>
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<td>Opportunity Fellowship (2)</td>
<td>4500–6000*</td>
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<td>0–6  **</td>
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*Includes extra stipend as editorial assistant.

**University of Montana, Missoula 59812**

**MATHEMATICAL SCIENCES**

- Keith Yale, Chairman
- Applications due: 4/1/85
- Graduate Students: full-time 36; full-time first year 8; part-time 0

<table>
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<tr>
<th>Type of Assistance</th>
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<th>Fees</th>
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</table>

*Includes extra stipend as editorial assistant.

**Resident: $351; nonresident: $423 (for carrying 12 credits in the academic year 1984-1985). Fees for 1985-1986 are not available at this time.**
Nebraska

Kearney State College, Kearney 68849
MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE
Applications due: 4/1/85
Facility 14; Published 3
Charles G. Pickens, Chairman
Graduate Students: full-time 3; full-time first year 5; part-time 8
Teaching Assistantship (3) 2900 9 6

University of Nebraska–Lincoln 68588
MATHEMATICS AND STATISTICS
Applications due: 3/1/85
Facility 37; Published 33
David Logan, Chairman
Graduate Students: full-time 58; full-time first year 31; part-time 27
Teaching Assistantship (40) 6700-8400 9 190 4-6 Teaching

Nevada

University of Nevada, Reno 89557
MATHEMATICS
Applications due: 3/1/85
Faculty 15; Published 7
R. N. Tompson, Chairman
Graduate Students: full-time 15; full-time first year 9; part-time 3
Teaching Assistantship (5) 4900-5700 9 20 Teaching

Doctoral Programs In Systems Science and Mathematics
WASHINGTON UNIVERSITY IN ST. LOUIS

The Department of Systems Science and Mathematics is involved in research in frontier areas of Systems Science and Control Theory, including algebraic system theory, control on manifolds, stochastic control, nonlinear estimation theory, control of quantum mechanical systems, martingales, control of nonlinear systems, optimal control, nonlinear programming, finite elements, and partial differential equations. Extensive research is also conducted in various mathematical topics in engineering, economics, and biology.

Research assistantships leading to the D.Sc. degree are available each year. The only required duties of research assistants are those relating to their own thesis work, usually beginning after their second year at Washington University.

For further information write to:
Professor John Zaborszky, Department of Systems Science and Mathematics
Box 1040, Washington University, St. Louis, Missouri, 63130

GRADUATE MATHEMATICAL SCIENCES at the UNIVERSITY OF MONTANA

PH.D. PROGRAM. This program for the advanced training of college mathematics teachers and other mathematical "generalists" has been developed with aid from the Advanced Training Projects, NSF Division of Graduate Education. It emphasizes breadth of knowledge, skill in the communication of mathematical thought, an awareness of the influence of mathematics on modern society and intellectual life, and the development of a sense of vocation as teacher and scholar. The program provides the opportunity for both traditional and interdisciplinary thesis work and boasts of a one hundred percent success rate in placing its graduates in positions in 4-year colleges and universities. For details, please write for the "Ph.D. Packet".

INTERDISCIPLINARY APPLIED MATHEMATICS MASTERS PROGRAM. This new option in the MA program is intended to prepare students to undertake careers as applied mathematicians, knowledgeable and experienced in the mathematical modelling of scientific phenomena. The program is intended for students whose undergraduate degree is in science or mathematics. It includes an individually tailored course of study, emphasizing the process of modeling and its role in scientific inference, and including some practical experience in model building. The student may choose an emphasis in physical science, biological science, or economic theory and operational analysis. For details, please ask for the "Interdisciplinary Masters Packet". Write to:

Chairman, Graduate Committee
Mathematics Department, University of Montana, Missoula, MT 59812

877
New Hampshire

Dartmouth College, Hanover 03755
MATHMATICS AND COMPUTER SCIENCE
Applications due: 3/1/85
Thomas F. Bickel, Chairman
Graduate Students: full-time 10; full-time first year 6; part-time –
Fellowship (16) 7080 9-12 4-10 Teaching
Ph. D. (81/84) ANT 1, P 1, Other 2. Total: 4

University of New Hampshire, Durham 03824
COMPUTER SCIENCE
Applications due: 2/15/85
R. Daniel Bergeron, Chairman
Graduate Students: full-time 31; full-time first year 4; part-time 12
Teaching Assistantship (10) 4900-8000 9-12 20 Research
Teaching Assistantship (2) 4900-8000 9-12 20 Research
Scholarship (3) Faculty 24; Published –
Ph. D. (81/84) ANT 1, S 1, AM 1, ME 1. Total: 4

New Jersey

Fairleigh Dickinson University, Madison 07940
MATHMATICS, COMPUTER SCIENCE, PHYSICS
Applications due: 3/15/85
Peter Falley, Chairperson
Graduate Students: full-time 1; full-time first year –; part-time –
Teaching Fellowship (1) 3600 9 100 6 Teaching
Ph. D. (81/84) ANT 13, AFA 10, GT 11. Total: 34

Montclair State College, Upper Montclair 07043
MATHMATICS AND COMPUTER SCIENCE
Applications due: 3/15/85
Kenneth C. Wolff, Chairperson
Graduate Students: full-time 12; full-time first year 6; part-time 115
Teaching Assistantship (9) 3000 9 Waived 15
Ph. D. (81/84) ANT 13, AFA 10,

Princeton University, Princeton 08544
MATHMATICS
Applications due: 1/10/85
Wu-chung Hsiang, Chairman
Graduate Students: full-time 50; full-time first year 21; part-time –
Fellowship (28) 8000 10
Teaching Assistantship (30)* 6400-7400 10
Research Assistantship (30)* 5600-6100 10
Ph. D. (81/84) ANT 13, AFA 10,

*Most appointments are 1/2 Teaching, 1/2 Research.

UNIVERSITY OF NEW HAMPSHIRE

Offers a stimulating, informal atmosphere for teaching and learning mathematics while earning a
M.S. in MATHEMATICS or a Ph.D. in MATHEMATICS or MATHEMATICS EDUCATION.

- The University is located in a small New England town with easy access to the
beaches of New Hampshire, the White Mountains and Boston.
- Financial Aid is available to virtually all students enrolled in the program.

Write: Samuel D. Shore, Director of Graduate Studies, Department of Mathematics, Kingsbury Hall,
Durham, N.H. 03824

DEGREES AWARDED
Academic year 1983-1984

Q CL
<table>
<thead>
<tr>
<th>TYPE OF ASSISTANCE (number anticipated 1985-1986)</th>
<th>STIPEND (paid to student)</th>
<th>FEES (paid by student)</th>
<th>SERVICE REQUIRED (hours per week of service)</th>
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<td>Seton Hall University, South Orange 07079</td>
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</table>
NEW MEXICO STATE UNIVERSITY


* Financial Support. Teaching Assistantships available. Also support for work in mathematical aspects of AI, including Computer Vision, Pattern Recognition, Neural Network Modeling. Development work in CAI and Technical Text Editors.

Direct inquiries to: Department of Mathematical Sciences New Mexico State University, Las Cruces, NM 88003

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New York

City University of New York, Brooklyn College 11210

COMPUTER AND INFORMATION SCIENCE
F. S. Beckman, Chairman
Faculty 22; Published 15

Applications due: 3/15/85
Graduate Students: full-time 30; full-time first year 15; part-time 180

Teaching Assistantship (4)
10000-13537 9 6-8
Research Assistantship (4)
3000-9000 9 5-13
Scholarship (8)
3000-9000 9 2000 3-8
Adjunct Lecturers (15)
3000-9000 9

City University of New York, City College, New York 10031

MATHEMATICS
John Landolfi, Chairman
Faculty 45; Published 18

Applications due: 5/1/85
Graduate Students: full-time 7; full-time first year 3; part-time –

Teaching Assistantship (6)
4000-8000 9 950-1600 4-8 Teaching
Scholarship (1)
1500 9 900
Tutoring Assistantship (4)
1000 9 900 6 Tutoring

City University of New York, Graduate Center, New York 10036

MATHEMATICS
Martin Moskowitz, Executive Officer
Faculty 30; Published 30

Applications due: 2/15/85
Graduate Students: full-time –; full-time first year –; part-time –

Fellowship (18)

Clarkson University, Potsdam 13676

MATHEMATICS AND COMPUTER SCIENCE
Mark J. Ablowitz, Chairman
Faculty 24; Published 21

Applications due: 4/1/85
Graduate Students: full-time 28; full-time first year 7; part-time 8

Teaching Assistantship (16) 7800 12 12 Grading, teaching
Research Assistantship (4) 7800 12 12 Grading, research

Columbia University, New York 10027

MATHEMATICS
Masatake Kuranishi, Chairman
Faculty 7; Published 7

Applications due: 1/15/85*
Graduate Students: full-time 41; full-time first year 14; part-time 2

Fellowship (37)** 9 6 12 Ph. D. (81/84) ANT 6, AFA 4, GT 6. Total: 12

Statistics
Burton H. Singer, Chairman
Faculty 7; Published 7

Applications due: 1/15/85*
Graduate Students: full-time 16; full-time first year 4; part-time 11

Teaching Fellowship (12) 6300-8400** 9-12 Exempt 10 Grading, teaching Ph. D. (81/84) P 2, S 2. Total: 4

Graduate Research Assistantship (2) 8400** 12 Exempt 27 Research

Cornell University, Ithaca 14853

APPLIED MATHEMATICS
Lars B. Wahlbin, Acting Director
Faculty 1**; Published –

Applications due: *
Graduate Students: full-time 21; full-time first year 2; part-time 0

Fellowship (7) 5400-8300 9 Ph. D. (81/84) AM 14. Total: 14
Teaching Assistantship (15) 5400-5600 9 15 Teaching
Research Assistantship (3) 5400-5600 9 15 Research

*Late applications considered.
**Stipend is for 1984-85; stipend for 1985-86 will be the same or slightly higher.
***Not known at this time.

881
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<th>TYPE OF ASSISTANCE</th>
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**MA IN APPLIED MATHEMATICS AT HOFSTRA UNIVERSITY**

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Hofstra University is an equal educational opportunity institution.
### New York University, Courant Institute of Mathematical Sciences, New York 10012

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<td>Olof B. Widlund, Chairman, Computer Science</td>
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| Polytechnic Institute of New York, Brooklyn 11201

| MATHMATICS | Applications due: 3/1/85 | Bachelor's by inst. | 478 |
| Harry Hochstadt, Chairman | Faculty 19; Published 14 | Bachelor's by dept. | 2 |
| Fellowship (3) | 3000-3500 | 9 | 4 Teaching | Ph. D. (81/84) AFA 2, GT 1, |
| Research Assistantship (10) | 12000-15000 | 12 | 3650 Teaching, grading | S 3. Total: 6 |
| Special Fellowship (1) | 6500-8000 | 9 | 300 Teaching, grading | |
| Rensselaer Polytechnic Institute, Troy 12180

| MATHMATICAL SCIENCES | Applications due: 2/15/85 | Bachelor's by inst. | 1077 |
| Joseph Ecker, Chairman | Faculty 21; Published 21 | Bachelor's by dept. | 20 |
| Fellowship (3) | 7500-8000 | 9 | 270 Research | Ph. D. (81/84) S 3, CS 7, OR 2, |
| Teaching Assistantship (30) | 6300-7000 | 9 | 270 Teaching, grading | AM 5. Total: 17 |
| Research Assistantship (10) | 6300-7000 | 9 | 270 Teaching, grading | |
| Scholarship (10) | 6300-7000 | 9 | Varies | |
| State University College at Brockport 14420

| MATHMATICS AND COMPUTER SCIENCE | Applications due: 5/15/85 | Bachelor's by inst. | 1423 |
| Kazumi Nakano, Chairperson | Faculty 22; Published 11 | Bachelor's by dept. | 100 |
| Teaching Assistantship (3) | 3650 | 9 | 125 Tutoring, grading | |
| State University College at New Paltz 12561

| MATHMATICS AND COMPUTER SCIENCE | Applications due: 8/1/85 | Bachelor's by inst. | 1100 |
| Paul Zuckerman, Chairperson | Faculty 19; Published 8 | Bachelor's by dept. | 40 |
| Teaching Assistantship (10) | 3300 | 9 | 15 Teaching, grading | |
| State University of New York at Albany 12222

| MATHMATICS AND STATISTICS | Applications due: 2/1/85 | Bachelor's by inst. | 2333 |
| Joe W. Jenkins, Chairman | Faculty 37; Published 37 | Bachelor's by dept. | 65 |
| Fellowship (3) | 7500 | 9 | 3-4 S 4. Total: 10 |
| Teaching Assistantship (28) | 6400 | 9 | 3-4 S 4. Total: 10 |
| State University of New York at Binghamton 13901

| MATHMATICAL SCIENCES | Applications due: 3/1/85 | Bachelor's by inst. | 1844 |
| David L. Hanson, Chairman | Faculty 27; Published 16 | Bachelor's by dept. | 108 |
| Teaching Assistantship (35) | 6000-8000 | 9 | Waived 4-12 Teaching, grading | Ph. D. (81/84) ANT 2, AFA 4, |
| Research Assistantship (2) | 6500-8000 | 9 | Waived 15 Research | |
| Special Teaching Assistantship (1) | 9000 | 12 | Waived 4-5 Teaching | |

*Four course waiver.

*Ten credit waiver.
State University of New York at Buffalo 14214

MATHEMATICS
Applications due: * Bachelor's by inst. 2988
Lewis A. Coburn, Chairman Faculty 42; Published 36 Bachelor's by dept. 50
Graduate Students: full-time 59; full-time first year 19; part-time 8
Ph. D. (81/84) ANT 2, AFA 9,
Fellowship (3–5) 8000–9000 Master's by dept. 11
Teaching Assistantship (28) 5000–7500
Graduate Assistantship (15) 5000–7500
*Fellowships: 1/15/85; assistantships: 3/15/85.

STATISTICS
Applications due: 3/15/85 Bachelor's by inst. 2988
Peter Enis, Chairman Faculty 7; Published 6 Bachelor's by dept. 41
Graduate Students: full-time 14; full-time first year 5; part-time 0
Ph. D. (81/84) P 1, S 7. Total: 8
Teaching Fellowship (11) 5400–9883
Research Assistantship (8) 5700–6700

State University of New York at Stony Brook 11794

APPLIED MATHEMATICS AND STATISTICS
Applications due: Open Bachelor's by inst. 1760
Alan Tucker, Chair Faculty 20; Published 19 Bachelor's by dept. 145
Graduate Students: full-time 51; full-time first year 17; part-time 25
Ph. D. (81/84) S 4, OR 7,
Fellowship (2) 7000 AM 14. Total: 25
Teaching Assistantship (33) 3000–5700
Research Assistantship (10) 5000–7000
*MATHEMATICS
Applications due: * Bachelor's by inst. 1760
Irwin Kra, Chairman Faculty 36; Published 30 Bachelor's by dept. 34
Graduate Students: full-time 59; full-time first year 19; part-time 34
Ph. D. (81/84) ANT 5, AFA 8,
Fellowship (3–5) 6200–7500 Master's by dept. 15
Teaching Assistantship (45–50) 5700–6700
Research Assistantship (5–10) 2000–6700
*Fellowships: 2/1/85; assistantships: 3/1/85, for first round of offers.

Syracuse University, Syracuse 13210

COMPUTER AND INFORMATION SCIENCE
Applications due: 3/1/85 Bachelor's by inst. 2666
Ernest Sibert, Dean Faculty 16; Published 13 Bachelor's by dept. 32
Graduate Students: full-time 46; full-time first year 10; part-time 94
Ph. D. (81/84) CS 3. Total: 3
Fellowship (2) 6175 Master's by dept. 32
Teaching Assistantship (13) 6400–6900
Research Assistantship (1) 9000–12000
Scholarship (1) 9
*MATHEMATICS
Applications due: 3/1/85 Bachelor's by inst. 2666
L. J. Lardy, Chairman Faculty 34; Published 26 Bachelor's by dept. 15
Graduate Students: full-time 85; full-time first year 24; part-time 0
Ph. D. (81/84) ANT 1, AFA 2.
Fellowship (2) 6175
Teaching Assistantship (60) 6500–8000

University of Rochester, Rochester 14627

MATHEMATICS
Applications due: 2/15/85 Bachelor's by inst. 600
Sanford L. Segal, Chairman Faculty 27; Published 22 Bachelor's by dept. 21
Graduate Students: full-time 32; full-time first year 9; part-time 3
Ph. D. (81/84) AFA 2, GT 1,
Fellowship (26) 3800–4800 Master's by dept. 2
Teaching Assistantship (26) 1200
Scholarship (7) 1000
Summer (2) 1000–2000

North Carolina

Duke University, Durham 27706

COMPUTER SCIENCE
Applications due: 2/1/85 Bachelor's by inst. 1315
Donald J. Rose, Chairman Faculty 15; Published 15 Bachelor's by dept. 102
Graduate Students: full-time 52; full-time first year 16; part-time 8
Ph. D. (81/84) CS 6. Total: 6
Fellowship (2)
Teaching Assistantship (12)
Research Assistantship (8)
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East Carolina University, Greenville 27834

MATHEMATICS

Robert L. Bernhardt, Chairman

Applications due: 4/15/85

Graduate Students: full-time 12; full-time first year 2; part-time –

Teaching Fellowship (13) 3200–6400 9 * 5-10^f Teaching

Computer and Office

(Math. Lab. Assistantship) (2) 3200–3840 9 * 12.5–15 **

*In-state: $746 per year; out-of-state: $3018 per year; special talent, out-of-state: $746 per year.

**Assist in Computer Center and Mathematics Lab.

North Carolina State University, Raleigh 27695

MATHEMATICS

E. E. Burniston, Head

Applications due: 3/15/85

Graduate Students: full-time 69; full-time first year 19; part-time 4

Teaching Assistantship (70) 6600–7200 9 796 5–20 Ph.D. (81/84) ANT 2, AFA 1, AM 1. Total: 4

Research Assistantship (5) 8000–8600 12 796 15–20

MATHEMATICS AND SCIENCE EDUCATION

Ann C. Howe, Head

Applications due: 3/1/85

Graduate Students: full-time 6; full-time first year 0; part-time 20

Teaching Assistantship (6) 5500–6200 9 572 20 Grading, teaching Ph.D. (81/84) ME 4. Total: 4

Research Assistantship (2) 5500–6200 9 572 20 Research

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GRADUATE STUDY IN MATHEMATICS AT DUKES

The Department of Mathematics of Duke University offers courses and thesis direction leading to the degrees of Master of Arts, Master of Science in Statistics and Computing, and Doctor of Philosophy. The Department and University offer fellowships, teaching assistantships, and research assistantships. There are 27 graduate faculty members representing many areas of mathematics, especially nonlinear partial differential equations. Excellent library facilities as well as office space are available in the mathematics building. For further information write to:

Professor Lawrence C. Moore
Director of Graduate Studies, Department of Mathematics
Duke University
Durham, North Carolina 27706

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NORTH CAROLINA STATE UNIVERSITY

The Department of Mathematics offers flexible programs of study leading to M.S. and Ph.D. degrees in pure and applied mathematics. A graduate faculty of more than 50 represents a wide variety of research interests with strengths in abstract algebra, linear algebra, analysis, functional analysis, differential equations, applied mathematics, numerical analysis, control theory, biomathematics, topology, mathematical physics, category theory and geometric programming. The Department has close ties with several other departments on the campus; namely, Computer Science, Operations Research, Physics, Statistics and several engineering departments.

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PROFESSOR JOHN FRANKE – Department of Mathematics – Box 8205
North Carolina State University – Raleigh, N. C. 27695-8205

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885
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University of North Carolina, Chapel Hill 27514

MATHMATICS
Applications due: 2/1/85

John A. Pfaltzgraf, Chairman
Faculty 28; Published 24

Fellowship (3)
5000-8000
9 | 770 | Research
Graduate Students: full-time 44; full-time first year 10; part-time 1
Ph. D. (81/84) ANT 2, AFA 2,

Teaching Fellowship (2)
7200-8400
9 | 770 | 3-6 Teaching
Graduate Students: full-time 20; full-time first year 8; part-time –
GT 4, AM 1, Other 5. Total: 14

Teaching Assistantship (42)
6200-8400
9 | 770 | 4-6 Teaching

OPERATIONS RESEARCH AND SYSTEMS ANALYSIS
Applications due: 2/15/85

George S. Fishman, Chairman
Faculty 4; Published 4

Fellowship (2)
5500-7000
9 | 762 | 10 Teaching
Graduate Students: full-time 20; full-time first year 8; part-time –
Ph. D. (81/84) OR 2. Total: 2

Teaching Assistantship (11)
5400-5800
9 | 762 | 15 Teaching

Research Assistantship (4)
5400-6000
9 | 762 | Research

STATISTICS
Applications due: 2/1/85

Walter L. Smith, Chairman
Faculty 12; Published 12

Fellowship (6)
6000-7500
9 | 700 | Research
Total: 15

Teaching Assistantship (15)
6500
9 | 700 | 10 Teaching

Research Assistantship (5)
6500
9 | 700 | 10 Research

University of North Carolina at Charlotte 28223

MATHMATICS
Applications due: 5/15/85

Barnet M. Weinstock, Chairman
Faculty 36; Published 18

Teaching Assistantship (6)
4725
9 | * | 6 Teaching

*In-state: $700; out-of-state: $3258.

University of North Carolina, Greensboro 27412

MATHMATICS
Applications due: 4/1/85

Richard B. Sher, Head
Faculty 20; Published 12

Teaching Assistantship (8)
3900
9 | 300 | 6 Teaching

*In-state tuition. Some out-of-state waivers are available.

UNIVERSITY OF NORTH CAROLINA

The Department of Mathematics offers programs leading to the degrees Master of Arts, Master of Science, and Doctor of Philosophy. There is great flexibility in arranging the masters degree program to include course work in Operations Research and Systems Analysis, Statistics, Computer Science and other areas related to mathematical sciences. Financial assistance is available and can be obtained by writing to address below.

Faculty members are active in research especially in the fields of classical analysis, algebra, combinatorics, differential geometry, dynamical systems, algebraic topology, foliation theory, algebraic geometry, and several complex variables.

Department of Mathematics
University of North Carolina at Chapel Hill
N.C. 27514

Equal Opportunity/Affirmative Action Employer
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<td>Graduate Students: full-time 13; full-time first year 7; part-time 9</td>
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*6 contact hours per week if teaching, 18 hours per week for nonteaching.*

887
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Cleveland State University, Cleveland 44115

MATHMATICS

Applications due: 9/1/85

Thomas W. Hungerford, Chairman

Faculty 26; Published 17

Graduate Students: full-time 3; full-time first year 3; part-time 12

Teaching Assistantship (2) | 4950 | Tutoring

John Carroll University, Cleveland 44118

MATHMATICS

Applications due: 3/15/85*

R. J. Kolesar, Chair

Faculty 13; Published 3

Graduate Students: full-time 2; full-time first year 1; part-time 5

Teaching Assistantship (5) | 4800 | 9 | 20 **

*Late applications accepted.
**Tutoring and grading. Teaching is possible.

Kent State University, Kent 44242

MATHEMATICAL SCIENCES

Applications due: 3/15/85

Olaf P. Stackelberg, Chairman

Faculty 32; Published 23

Graduate Students: full-time 34; full-time first year 18; part-time 40

Fellowship (1) | 6000 | 9 | 298 | Ph. D. (81/84) ANT 1, AFA 4,

Teaching Fellowship (7) | 6000 | 9 | 298 | GT 1, P 1, AM 1, Other 1.

Teaching Assistantship (20) | 5400 | 9 | 298 | Master's by dept. 8

Research Assistantship (5) | 5400-6000 | 9 | 298 | Research

Total: 9

KENT STATE UNIVERSITY

The Mathematical Sciences Department at Kent State University has 32 full-time faculty members with specialists in algebra, classical and functional analysis, topology, probability and statistics, numerical analysis and computer science.

Kent State University offers M.A. and M.S. degrees in pure and applied mathematics, statistics, computer science, and teaching of secondary mathematics. The Ph.D. degree may be earned in any of the above-mentioned areas of specialization of the faculty. In addition, the Mathematical Sciences Department in cooperation with the Northeastern Ohio Universities College of Medicine, offers a doctoral program in biomedical mathematics.

The Institute for Computational Mathematics is housed within the Mathematical Sciences Department and provides both faculty and graduate students with a unique vehicle for the interplay of mathematics, applied mathematics and computer science.

For additional information contact:

Dr. Richard K. Brown
Graduate Coordinator
Mathematical Sciences Department
Kent State University
Kent, Ohio 44242

KSU is an Equal Opportunity/Affirmative Action Institution
<table>
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<th>Type of Assistance</th>
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Highly Motivated, Mathematically Talented Individuals are invited to apply for admission to the Graduate Program of the Department of Mathematics of THE OHIO STATE UNIVERSITY

A successful ongoing program of faculty recruitment and development and an active visitors program make possible instruction and research opportunities for Ph.D. candidates in nearly all branches of contemporary mathematics, pure and/or applied.

M.S. students may study pure and/or applied mathematics and, if qualified, may coordinate their programs with programs in the department of Computer and Information Science leading to a second M.S. in that discipline. A sequence of courses in Actuarial Science is available for mathematics graduate students. For high school teachers, a mathematics-content program leads to an M.A. degree.

Successful applicants are invited to begin their studies at O.S.U. in June, 1985, with Summer Fellowship support including a stipend of $1530. Financial support for continuing students is available in the form of Fellowships and/or Teaching Associateships carrying stipends ranging from $670 to $750 per month and providing for waiver of all tuition and fees. M.A. applicants may request double teaching responsibility and receive double stipends. Summer support for most continuing students is available in the form of supplemental fellowships or Teaching Associateships.

Further information and/or application materials are available from:

Professor Phil Huneke, Vice-Chairman, Department of Mathematics
Ohio State University, Columbus, Ohio 43210

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889
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<th>University of Cincinnati, Cincinnati 45221</th>
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<td><strong>MATHEMATICS AND STATISTICS</strong></td>
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<td>Applications due: 4/1/85*</td>
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</table>

*Late applications accepted.  **Teaching and/or tutoring in supplemental instruction program.

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**University of Cincinnati**

**Degree Programs:** The Department offers programs leading to the M.S., M.A.T. and Ph.D. degrees in a variety of areas. The Master's program is primarily intended to prepare students for employment as mathematicians in business, industry or government. Ph.D. candidates can choose from a broad spectrum of faculty research including algebra, complex analysis, functional analysis, fuzzy sets, mathematical ecology, numerical analysis, ordinary differential equations, partial differential equations, probability and statistics. These programs of advanced study are supported by an excellent departmental library and computer facilities.

**Financial Aid:** Fellowship support of $5250-5750 plus tuition remission and Teaching Assistantship support of $5400-6000 plus tuition remission are available to qualified applicants.

**Special Teaching Fellowships:** The Department is offering to outstanding new applicants 2 teaching fellowships named in honor of Professor A.J. Macintyre. These awards carry a stipend of $7000-8000 and may be renewed for 1 year upon superior performance.

For information contact: Professor J.T. King, Graduate Admissions Director Department of Mathematical Sciences #25 University of Cincinnati, Cincinnati, OH 45221
Youngstown State University, Youngstown 44555

MATHEMATICAL AND COMPUTER SCIENCES

Application due: 3/1/85

Type of Assistance

Richard L. Burden, Chairman

Faculty 29; Published 12

Graduate Students: full-time 8; full-time first year 3; part-time 30

Teaching Assistantship (5) 4125 9 5

Oklahoma State University, Stillwater 74078

COMPUTING AND INFORMATION SCIENCE

Application due: 3/1/85

Faculty 8; Published 4

Graduate Students: full-time 55; full-time first year 23; part-time 25

Teaching Assistantship (12) 625/mo. 9 20 Grading, teaching

Research Assistantship (1) 625/mo. 9 20 Research

William H. Jaco, Head

MATHMATICAL AND COMPUTER SCIENCES

Applications due: 4/15/85

Teaching Assistantship (12) 5805-6030 9 600 20 Teaching, grading

Research Assistantship (4) 8040-8190 12 600 20 Research

Ph. D. (81/84) ANT 1, AFA 1,

University of Oklahoma, Norman 73019

MERTHEMATICS

Applications due: Open

Faculty 37; Published 32

Graduate Students: full-time 41; full-time first year 18; part-time 3

Fellowship (2) 1000-1300 9 350 Ph. D. (81/84) ANT 2, AFA 1,

Teaching Assistantship (38) 6000-6500 9 350 6 Research, Grading

Research Assistantship (1) 6000-7000 9 350 20

Tuition Waiver (12-15) 300-400

University of Tulsa, Tulsa 74104

MATHMATICAL AND COMPUTER SCIENCES

Applications due: 3/1/85

Faculty 16; Published 11

Graduate Students: full-time 15; full-time first year 6; part-time 20

Fellowship (2) 3800-4900 9 6 Research, Grading

Teaching Assistantship (10) 3800-4900 9 6 Teaching, Grading

Scholarship (2) 3800-4900 9

OKLAHOMA STATE UNIVERSITY

DEPARTMENT OF MATHEMATICS

Be A Colleague of the O.S.U. Faculty

While You Grow Mathematically

If you choose to do your graduate work in mathematics at OSU, the mathematics faculty will do its best to help you attain your academic and professional goals. Our M.S., Ph.D., and Ed.D. programs are regularly being updated. The pure mathematics programs are supplemented and improved by the active research faculty while new and innovative applied mathematics degree programs are being designed with the cooperation of Industry.

For information on admission, financial support, and degree programs write:

Professor John Jobe
Graduate Director
Department of Mathematics
Oklahoma State University
Stillwater, Oklahoma 74078
Oregon State University, Corvallis 97331

MATHMATICS
P. M. Anselone, Chairman
Applications due: Open
Graduate Students: full-time 38; full-time first year 14; part-time –
Teaching Assistantship (34) 5324–5896 9 291 Ph. D. (81/84) AFA 1, GT 2, P 1, AM 3. Total: 7

STATISTICS
G. David Faulkenberry, Chairman
Applications due: 3/1/85
Graduate Students: full-time 43; full-time first year 14; part-time –
Teaching Assistantship (10) 4400 9 99/term 12-15 Ph. D. (81/84) S 9, OR 1.
Research Assistantship (10) 4400 9-12 99/term 12-20 Total: 10

Portland State University, Portland 97207

MATHMATICAL SCIENCES
E. A. Enneking, Head
Applications due: 4/1/85
Graduate Students: full-time 25; full-time first year 15; part-time 50
Teaching Assistantship (10) 4104–5994 9 125/term 15 Teaching

University of Oregon, Eugene 97403

MATHMATICS
C. R. B. Wright, Head
Applications due: 3/1/85
Graduate Students: full-time 76; full-time first year 12; part-time 11
Teaching Fellowship (40) 5400–6329 9 322.50 4 Teaching

OREGON STATE UNIVERSITY
M.A., M.S. and Ph.D. in Mathematics

Courses of study for the Ph.D. and M.S. degrees are available in all of the principal branches of mathematics: algebra, analysis, applied mathematics, geometry, probability, and topology. In addition, there is a program in mathematics education leading to an M.A. or an M.S. degree with a teaching emphasis, and a career program featuring an occupational internship leading to an M.A. or M.S. for students planning government or industrial careers in mathematics.

Teaching Assistantships $5324 – $5896 plus tuition remission.
For application materials write:
Professor Bent Petersen
Department of Mathematics
Oregon State University, Corvallis, OR 97331

THE UNIVERSITY OF OREGON

Graduate Programs. The Department of Mathematics offers established programs leading to the M.S. and Ph.D. degrees in pure and applied mathematics, numerical analysis, mathematical statistics, and mathematics education. Graduate classes are small and there is a tradition of personal contacts among faculty and students. Facilities include nearby computing services and a mathematics library housed adjacent to the offices.

Graduate Teaching Fellowships involve 4 contact hours per week, leaving time for carrying a full graduate program. Students find the cost of living in Eugene to be moderate and have access to ocean and mountain recreation areas a short distance away.

For further information and application materials write or telephone:
Charles R.B. Wright, Head, Department of Mathematics
University of Oregon, Eugene, Oregon 97403
Phone (503) 686-4705

The University of Oregon is an Equal Employment/Affirmative Action Employer.
Philadelphia, Pennsylvania 19104

Bucknell University, Lewisburg 17837

**MATHEMATICS**

Applications due: 3/1/85

David S. Ray, Head

Faculty 18; Published 13

Graduate Students: full-time 1; full-time first year 0; part-time 2

**Scholarship (2)**

Fellowship (2)

925

9

Teaching Assistantship (5)

3000

9

15 Grading, tutoring

**Teaching Assistantship (5)**

9

Drexel University, Philadelphia 19104

**MATHEMATICS AND COMPUTER SCIENCE**

Applications due: 3/15/85

Loren Argabright, Head

Faculty 41; Published 30

Graduate Students: full-time 40; full-time first year 16; part-time 60

**Research Assistantship (5)**

4800-5800

9 Waived

6 Teaching

Ph. D. (81/84) AFA 1, S 1, AM 3. Total: 4

**Research Assistantship (5)**

4800-5800

9 Waived

20 Research

Indiana University of Pennsylvania, Indiana 15705

**MATHEMATICS**

Applications due: 3/15/85

James Reber, Chairman

Faculty 34; Published 5

Graduate Students: full-time 5; full-time first year 4; part-time 3

**Research Assistantship (2)**

3500-5000

9

100

20 Research

*Must be a minority student.

Kutztown University, Kutztown 19530

**MATHEMATICS AND COMPUTER SCIENCE**

Applications due: 5/1/85

Edward W. Evans, Chairman

Faculty 22; Published 4

Graduate Students: full-time 0; full-time first year 0; part-time 15

**Teaching Assistantship (1)**

2800

9

20

*Grading, some teaching and tutoring.

**DREXEL UNIVERSITY**

The Department of Mathematics and Computer Science offers graduate programs leading to the M.S. degree in Applied Mathematics or Computer Science, and to the Ph.D. degree in Mathematics. The M.S. programs are “professionally oriented” in the sense that they are primarily intended to prepare students for employment as practicing applied mathematicians and computer specialists in business, industry, or government. Areas of research activity in support of the Ph.D. program include:

- **Applied Mathematics:** mathematical modeling in engineering and science, biomathematics, mathematical forecasting and operations research.
- **Classical and Modern Analysis:** differential equations, special functions, harmonic analysis, C* algebras and group representations.
- **Computational Mathematics:** numerical analysis, approximation theory, scientific computation and computer graphics, computational methods in linear algebra and Lie Algebra theory.
- **Computer Science:** cryptography and computer data security, software engineering, computer vision and artificial intelligence, combinatorial mathematics.
- **Probability and Statistics:** applied statistics and data analysis, probability and stochastic modeling, demography and population mathematics.

Financial aid is available through teaching and research assistantships which provide academic year stipends of from $4800 to $5800 plus a waiver of tuition and fees. Applicants may request further information from:

Graduate Recruiting Chairman – Department of Mathematics and Computer Science

DREXEL UNIVERSITY – Philadelphia, Pennsylvania 19104

Pennsylvania

Carnegie-Mellon University, Pittsburgh 15213

**MATHEMATICS**

Applications due: Open

John P. Lehoczky, Head

Faculty 12; Published 12

Graduate Students: full-time 26; full-time first year 11; part-time 1

**Research Assistantship (9)**

5850

9

12 Research

Ph. D. (81/84) S 12. Total: 12

**Fellowship (4)**

5292

12 Research

Ph. D. (81/84) ANT 1, AFA 2, L 1, OR 1, AM 3, Other 3. Total: 11

**Teaching Assistantship (40)**

6750-7200

9

4 Teaching

Ph. D. (81/84) AFA 1, S 1, AM 3. Total: 4

**Research Assistantship (9)**

9000-9720

12

24 Teaching

Ph. D. (81/84) AFA 1, S 1, AM 3. Total: 4

**STATISTICS**

Applications due: Open

Edward W. Evans, Chairman

Faculty 22; Published 4

Graduate Students: full-time 5; full-time first year 4; part-time 3

**Research Assistantship (5)**

4800-5800

9 Waived

20 Research

Ph. D. (81/84) AFA 1, S 1, AM 3. Total: 4

**Teaching Assistantship (5)**

3000

9

15 Grading, tutoring

Ph. D. (81/84) AFA 1, S 1, AM 3. Total: 4

9 Waived

20 Research

Ph. D. (81/84) AFA 1, S 1, AM 3. Total: 4

9 Waived

20 Research

Ph. D. (81/84) AFA 1, S 1, AM 3. Total: 4

9 Waived

20 Research

Ph. D. (81/84) AFA 1, S 1, AM 3. Total: 4

9 Waived

20 Research

Ph. D. (81/84) AFA 1, S 1, AM 3. Total: 4

Financial aid is available through teaching and research assistantships which provide academic year stipends of from $4800 to $5800 plus a waiver of tuition and fees. Applicants may request further information from:

Graduate Recruiting Chairman – Department of Mathematics and Computer Science

DREXEL UNIVERSITY – Philadelphia, Pennsylvania 19104

983
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<td><strong>Lehigh University, Bethlehem 18015</strong></td>
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<td>B. K. Ghosh, Chairman</td>
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<td>Master's by dept. 6</td>
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<td>Scholarship (2)</td>
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| **Pennsylvania State University, University Park 16802** |
| **COMPUTER SCIENCE** | Applications due: 2/15/85 | Bachelor's by dept. 210 |
| Joseph M. Lambert, Head | Faculty 19; Published 17 | Master's by dept. 30 |
| Fellowship (2) | 5976-6804 | Graduated Students: full-time 95; full-time first year 45; part-time 10 |
| Teaching Assistantship (40) | 5976-6804 | Research Ph. D. (81/84) CS 8. Total: 8 |
| Research Assistantship (5-10) | 6390-6804 | |
| **MATHEMATICS** | Applications due: 7/23/85 | Bachelor's by dept. 50 |
| Gerard Lallement, Chairman | Faculty 46; Published 35 | Master's by dept. 3 |
| Fellowship (3) | 6480 | Graduated Students: full-time 77; full-time first year 17; part-time |
| Teaching Assistantship (75) | 3186-6804 | Ph. D. (81/84) ANT 7, AFA 2, L 2, AM 1. Total: 12 |

| **Temple University, Philadelphia 19122** |
| **STATISTICS** | Applications due: 3/15/85 | Bachelor's by inst. 2995 |
| William Wei, Chairman | Faculty 24; Published 21 | Bachelor's by dept. 5 |
| Teaching Assistantship (2) | 7000 | Graduated Students: full-time 22; full-time first year 7; part-time 17 |
| Research Assistantship (10) | 4500-6000 | Master's by dept. 7 |
| **University of Pennsylvania, Philadelphia 19104** |
| **COMPUTER AND INFORMATION SCIENCE** | Applications due: 2/1/85 | Bachelor's by inst. 2558 |
| Aravind K. Joshi, Chairman | Faculty 18; Published 18 | Bachelor's by dept. 25 |
| Teaching Fellowship (10) | 8000-8500 | Graduated Students: full-time 80; full-time first year 35; part-time 35 |
| Research Assistantship (15) | 8500-13000 | Ph. D. (81/84) CS 14. Total: 14 |
| Scholarship (3) | 10000-11000 | |
| *Full-time summer research. |
| **MATHEMATICS** | Applications due: 2/15/85 | Bachelor's by inst. 2558 |
| Stephen S. Shatz, Chairman | Faculty 34; Published 30 | Bachelor's by dept. 65 |
| Fellowship (6-7) | 5800 | Graduated Students: full-time 30; full-time first year 9; part-time 0 |
| Teaching Assistantship (37) | 5800 | Research, course work Ph. D. (81/84) ANT 1, AFA 2, GT 2, L 1, Other 2. Total: 8 |
| *In most cases summer support is available. |

**Are you looking for:**
A department of over 40 members, actively involved in research in Pure and Applied Mathematics?
Small classes and close contact with faculty, together with the rich resources of a large university?
Stimulating seminars and colloquia?
The cultural, social and recreational facilities of a major metropolitan center?

**If so:** The Mathematics Department of Temple University may be the place for you. For more information about the M.A. and Ph.D. programs in pure and applied mathematics that we offer, write: Graduate Chairman, Box N, Department of Mathematics 038-16, Temple University, Philadelphia, Pa. 19122
<table>
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<td>Donald F. Morrison, Chairman</td>
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**University of Pittsburgh, Pittsburgh 15260**

**COMPUTER SCIENCE**

Applications due: 3/1/85

Siegfried Treu, Chairman

Faculty 16; Published 15

Graduate Students: full-time 49; full-time first year 23; part-time 26

Teaching Fellowship (20) | 6664-9096 | 8-12 | 20 | Teaching |
Teaching Assistantship (30) | 5753-5584 | 8-12 | 20 |
Research Assistantship (8) | 6720-9000 | 12 | 20 | Research |
Scholarship (2)

**MATHMATICS AND STATISTICS**

Applications due: 3/15/85

Wilbur E. Deskins, Chairman

Faculty 50; Published 46

Graduate Students: full-time 92; full-time first year 31; part-time 28 |

Teaching Fellowship (17) | 5775-8662.50 | 8-12 | Waived | 15-20 | Teaching, grading |
Teaching Assistantship (38) | 5450-8175 | 8-12 | Waived | 15-20 | Teaching, grading |
Research Assistantship (9) | 5600-7950 | 8 | Waived | Varies |
Mellon Fellowship (3) | 6000 | 8 |

*Monthly.

**Villanova University, Villanova 19085**

**COMPUTER SCIENCE**

Applications due: 3/15/85

Don Goelman, Director

Faculty 10; Published 2

Graduate Students: full-time 50; full-time first year 28; part-time 376

Teaching Assistantship (3) | 5000 | 9 | 3 | Teaching |
Research Assistantship (5) | 5000 | 9 | 20 | Grading, research |
Tuition Waiver (4) | 9 | 7 | Grading, research |

**University of Pittsburgh GRADUATE PROGRAMS**

M.A., M.S., PH.D.
Classical, Modern Analysis
Combinatorics
Differential Equations
Fluid Dynamics
Geometry and Topology
Logic and Set Theory
Multivariate Analysis
Numerical Analysis
Reliability Theory
Scientific Computing

For Information Write To:

Director of
Graduate Admissions
Department of
Mathematics and Statistics
University of Pittsburgh
Pittsburgh, PA 15260
or Telephone (Collect): (412) 624-4488
<table>
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<td>Darrell Hajek, Chairman</td>
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<td>Helen E. Salzberg, Chair</td>
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<td>*Three hours per week in-class teaching, seven hours per week preparing and 10 hours per week tutoring.</td>
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<td>University of Rhode Island, Kingston 02881</td>
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*$30 per hour (6-9 hours).
University of South Carolina, Columbia 29210

MATHEMATICS AND STATISTICS
Applications due: 5/1/85
William T. Trotter, Jr., Chairman
Faculty 42; Published 37
Graduate Students: full-time 49; full-time first year 18; part-time 10
Teaching Assistantship (15–20) $7000–9000
12 300 3–5 Teaching Ph. D. (81/84) S 3, AM 1,
Research Assistantship (4) $7000–9000
12 300 20 Research Other 4, Total 8

South Dakota

South Dakota School of Mines and Technology, Rapid City 57701

MATHEMATICAL SCIENCES
Applications due: 3/1/85
David Ballew, Head
Faculty 14; Published 7
Graduate Students: full-time 15; full-time first year 5; part-time 3
Teaching Assistantship (8) $4000–4400
9 15.35/hr. 14 Teaching

South Dakota State University, Brookings 57007

MATHEMATICS
Applications due: 4/15/85
Kenneth L. Yocom, Head
Faculty 19; Published 5
Graduate Students: full-time 6; full-time first year 5; part-time 1
Teaching Assistantship (6) $2500–5100
9 15/hr. 3–6 Teaching

University of South Dakota, Vermillion 57069

MATHEMATICAL SCIENCES
Applications due: 4/1/85
William J. Kabeiseman, Chairman
Faculty 17; Published –
Graduate Students: full-time 5; full-time first year 2; part-time 0
Teaching Assistantship (6) $3050–3100
9 457 4 Teaching

UNIVERSITY OF SOUTH CAROLINA
DEPARTMENT OF MATHEMATICS AND STATISTICS

The Department offers programs of study leading to the M.S., M.A., and Ph.D. degrees in Mathematics and the M.S. and Ph.D. degrees in Statistics. In addition, there are two teaching-oriented nonthesis degrees — the Master of Mathematics and Master of Arts in Teaching.

Ph.D. students in Mathematics may specialize in numerous areas, including algebra, analysis, applied mathematics, discrete mathematics, logic, number theory, probability and topology. Students in Statistics may choose to emphasize probability theory, applied probability, statistical computing, mathematical statistics, and applied statistics.

The broad spectrum of advanced study is supported by excellent library holdings and computing facilities.

FINANCIAL AID

The primary source of financial aid is the graduate assistantship. The Department offers teaching assistantships, grading assistantships, and service assistantships with the computing and statistics laboratories. In addition, a number of research assistantships are available through faculty grants. Full-time teaching assistantships typically require 3–5 contact hours per week and carry a stipend of $6000 to $7000 for the academic year. In addition, graduate assistants receive a substantial reduction in tuition and fees. Summer stipends range from $1000 to $1800, for those who desire summer support.

For further information and application materials, contact the Director of Graduate Studies, Department of Mathematics and Statistics, University of South Carolina, Columbia, South Carolina 29208.
<table>
<thead>
<tr>
<th><strong>TYPE OF ASSISTANCE</strong></th>
<th><strong>STIPEND</strong></th>
<th><strong>FEES</strong></th>
<th><strong>SERVICE REQUIRED</strong></th>
<th><strong>DEGREES AWARDED</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>paid to student</td>
<td>paid by student</td>
<td>hours per week</td>
<td>type of service</td>
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<tr>
<td>(number anticipated)</td>
<td>dollars</td>
<td>months</td>
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<tr>
<td>1985-1986</td>
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</tbody>
</table>

### Tennessee

**East Tennessee State University, Johnson City 37614**

**MATHEMATICS**

Applications due: 4/15/85

Charles W. Wilson, Acting Chairman

Faculty 17; Published 4

Graduate Students: full-time 6; full-time first year 4; part-time 11

Master's by dept. 2

Teaching Assistantship (3) 2700-3000 9 1000 6

### Middle Tennessee State University, Murfreesboro 37130

**MATHEMATICS AND COMPUTER SCIENCE**

Applications due: 3/15/85

Harold S. Spraker, Chairman

Faculty 30; Published 5

Graduate Students: full-time 21; full-time first year 9; part-time 5

Master's by dept. 13

Teaching Assistantship (15) 4370-4600 9 6

### University of Tennessee, Knoxville 37996

**COMPUTER SCIENCE**

Applications due: 3/1/85

John Bradley, Acting Head

Faculty 12; Published 5

Graduate Students: full-time 80; full-time first year 9; part-time 1

Master's by dept. 21

Teaching Assistantship (12) 5268 9 46

Teaching Assistantship (59) 5700-7000 9 168 6-8

**MATHEMATICS**

Applications due: 3/1/85

John S. Bradley, Head

Faculty 45; Published 42

Graduate Students: full-time 54; full-time first year 15; part-time 1

Ph. D. (81/84) GT 2, AM T.

Teaching Assistantship (2) 7500 9 168 4

Teaching Assistantship (9) 5100-7000 9 168 6-8

**STATISTICS**

Applications due: 2/15/85

David L. Sylwester, Head

Faculty 12; Published 9

Graduate Students: full-time 8; full-time first year 4; part-time 6

Master's by dept. 4

Teaching Assistantship (4) 5300 9 150 6

Teaching Assistantship (3) 4000-7000 9-12 1050 10-20

**Computer Center Advisor (3)**

### UNIVERSE OF TENNESSEE, KNOXVILLE ****GRADUATE STUDY IN APPLIED AND PURE MATHEMATICS

**PROGRAMS OF STUDY.** The Department of Mathematics offers M.A., M.S., M.M., and Ph.D. degrees in a wide variety of areas. Broadly based programs are encouraged. Thesis and non-thesis options are available to M.A. and M.S. candidates. The department is energetically engaged in research. Currently, it has 50 faculty and regularly hosts visiting faculty. Major fields of research include algebra and number theory, analysis (classical, functional, harmonic), applied mathematics, mathematical ecology, matrix theory, numerical analysis (linear algebra, ordinary and partial differential equations), integral, ordinary and partial differential equations, probability and statistics, geometric topology, trans finite sets, and topological algebra. Faculty and students are currently engaged in joint work in computer science, ecology, management science, electrical and nuclear engineering, and engineering mechanics. The Department maintains close contact with the Oak Ridge National Laboratory and the Tennessee Valley Authority.

**FINANCIAL AID.** The department is offering to one or two outstanding candidates the Dryzer Teaching Fellowship, which carries a stipend of $7500 for the academic year, tuition remission, and a reduced teaching load. Regular teaching Assistantship support, ranging from about $5,200 to $7,000, plus tuition remission, is available to qualified students. The value of tuition remission is at least $1384 for in-state students and $4016 for out-of-state students. This year is the first for a state-funded Center of Excellence program at UTK. The department's involvement this year has allowed it to reduce teaching loads and increment stipends of several teaching assistants; e.g., several senior GTAs are receiving stipends of $3000 plus tuition remission and a one-course reduction in teaching load. Teaching Assistants who wish to do so are able to teach a course during the summer for an additional stipend of at least $1000. Other support, in the form of Research Assistships through departmental grants or from the Oak Ridge National Laboratory, is often available.

**ENVIRONMENT.** The University of Tennessee, Knoxville, is located along the Tennessee River with the Cumberland Mountains to the north, the Cumberland Plateau to the west and southwest, and the Great Smoky Mountains to the east and southeast. Many lakes, national forests and wilderness areas are nearby. Places to fish, water ski, canoe, sail, hike, rock climb, backpack, camp, and go caving or whitewater rafting are numerous. Snow skiing is available at several sites within three hours driving time. University-affiliated clubs participate in many of these activities. The population of the city of Knoxville is 175,030; the metropolitan area contains a population of 476,517. For January the average low temperature is 32°F. For July the average low is 68°F and the average high is 80°F. University housing on or near campus is available for both single and married students. Bus service is available.

**FOR INFORMATION,** write to: Dr. John S. Bradley, Head, Department of Mathematics, University of Tennessee, Knoxville, Tennessee 37996-1300.
**Vanderbilt University, Nashville 37235**

**COMPUTER SCIENCE**

Patrick C. Fischer, Chairman

Applications due: 2/1/85

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Selected</th>
<th>Service Required</th>
<th>Academic Year</th>
</tr>
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<tbody>
<tr>
<td>Fellowship (2)</td>
<td>7650-8100</td>
<td>9</td>
<td>9</td>
<td>Full-time; first year 5</td>
<td>1983-1984</td>
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<tr>
<td>Teaching Fellowship (8)</td>
<td>5850-6300</td>
<td>9</td>
<td>6*</td>
<td>Teaching</td>
<td>1983-1984</td>
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<tr>
<td>Teaching Assistantship (12)</td>
<td>7200-10200</td>
<td>9</td>
<td>16</td>
<td>Grading</td>
<td>1983-1984</td>
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<td>Scholarship (4)</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td>1983-1984</td>
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**Texas**

**Baylor University, Waco 76798**

**MATHEMATICS**

Richard R. Goldberg, Chairman

Applications due: 2/1/85

<table>
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<tr>
<th>Type of Assistance</th>
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<th>Fees</th>
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<th>Service Required</th>
<th>Academic Year</th>
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<tr>
<td>Teaching Fellowship (20)</td>
<td>6500*</td>
<td>9</td>
<td>Waived 6*</td>
<td>Part-time 2</td>
<td>1983-1984</td>
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<tr>
<td>H. S. Vanderbilt Scholarship (2)</td>
<td>8000-8500</td>
<td>9</td>
<td>Waived 6*</td>
<td></td>
<td>1983-1984</td>
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**East Texas State University, Commerce 75428**

**COMPUTER SCIENCE**

Lowell N. Ballew, Head

Applications due: 7/1/85

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<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Selected</th>
<th>Service Required</th>
<th>Academic Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Assistantship (6)</td>
<td>4300-5200</td>
<td>9</td>
<td>25</td>
<td>3–10 Teaching</td>
<td>1983-1984</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Tutoring</td>
<td>1983-1984</td>
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**Lamar University, Beaumont 77710**

**MATHEMATICS**

George D. Poole, Head

Applications due: 4/15/85

<table>
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<th>Type of Assistance</th>
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<th>Fees</th>
<th>Selected</th>
<th>Service Required</th>
<th>Academic Year</th>
</tr>
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<tbody>
<tr>
<td>Teaching Assistantship (5)</td>
<td>4300-4600</td>
<td>9</td>
<td>20</td>
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<td>1983-1984</td>
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**North Texas State University, Denton 76203**

**MATHEMATICS** (Ad on p. 900)

John Ed Allen, Chairman

Applications due: 4/15/85

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Selected</th>
<th>Service Required</th>
<th>Academic Year</th>
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<tr>
<td>Teaching Fellowship (47)</td>
<td>6400-10800</td>
<td>9</td>
<td>376</td>
<td>6-9 Teaching</td>
<td>1983-1984</td>
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<tr>
<td>Teaching Assistantship (20)</td>
<td>9</td>
<td></td>
<td>376</td>
<td>AM 2. Total: 7</td>
<td>1983-1984</td>
</tr>
</tbody>
</table>

*89 hours per week for work in mathematics tutoring lab.

**Rice University, Houston 77251**

**MATHEMATICAL SCIENCES**

C.-C. Wang, Chairman

Applications due: 3/1/85

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Selected</th>
<th>Service Required</th>
<th>Academic Year</th>
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<tbody>
<tr>
<td>Fellowship (5)</td>
<td>5000–7000</td>
<td>9</td>
<td>10</td>
<td>Grading, teaching</td>
<td>1983-1984</td>
</tr>
<tr>
<td>Research Assistantship (15)</td>
<td>5000–7000</td>
<td>9</td>
<td></td>
<td></td>
<td>1983-1984</td>
</tr>
<tr>
<td>Scholarship (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1983-1984</td>
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</table>

**William A. Veech, Chairman**

Applications due: 4/15/85

<table>
<thead>
<tr>
<th>Type of Assistance</th>
<th>Stipend</th>
<th>Fees</th>
<th>Selected</th>
<th>Service Required</th>
<th>Academic Year</th>
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<tbody>
<tr>
<td>Fellowship (15)</td>
<td>6000–7500</td>
<td>9</td>
<td>3</td>
<td>Grading, teaching</td>
<td>1983-1984</td>
</tr>
</tbody>
</table>

*600 hours per week for work in mathematics tutoring lab.
TEACHING FELLOW STIPENDS FOR 1985–86
WILL RANGE FROM $6,000 TO $10,000

The University: North Texas State University is located in Denton, Texas, a city of 50,000 residents just 35 miles north of the Dallas-Fort Worth metropole and about 25 miles north of the D/FW Airport. The North Central Texas climate is mild and the University’s location offers many cultural, recreational, and economic opportunities to students. The University enrolls more than 21,000 students with nearly one-third of these engaged in graduate study. Our school of Music is the second largest in the country.

The Mathematics Library: The University maintains one of the nation’s finest library collections in the mathematical sciences with more than 17,000 volumes. The library currently subscribes to 554 mathematics journals, has 388 complete runs, and 729 journal titles represented.

The Department: The Department offers programs of instruction and research leading to the Master of Arts, Master of Science and Doctor of Philosophy degrees. It is one of only a very few departments in the world which furnishes a research and an educational experience for its students in the “Texas Tradition”, a method of learning and doing mathematics used by Professor R. L. Moore and H. S. Wall of the University of Texas. This method is widely used by our faculty along with a variety of other techniques which enable the students to have excellent research and educational training in mathematics. The department has 21 faculty members and 47 teaching fellow positions. We have been fortunate to have as our guests in recent years S. Kakutani, Stan Ulam, Paul Erdős, W. Zelazko, D. Cenzer, S. Graf, and Gian-Carlo Rota.

Financial Assistance: Teaching fellow stipends are $1800 per class for students with a master’s degree and $1600 per class for students with a Baccalaureate degree in mathematics. A class generally has 30–40 students and most graduate students teach two or three classes each semester. Out-of-state fees are waived for teaching fellows and spouses. Teaching fellows may earn an additional $350 per semester by working three hours per week in the Tutor Lab.

Write for additional information and application forms.

Dr. John Ed Allen, Chairman
Department of Mathematics
North Texas State University
Denton, Texas 76203

EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER
Southern Methodist University, Dallas 75275

MATHEMATICS

Applications due: 4/1/85*

George W. Reddien, Chairman
Facility 16; Published 13
Graduate Students: full-time 18, full-time first year 12, part-time 6

Teaching Assistantship (17) 6500 9 3 Weeks Teaching
Dean's Award (3) 11000 9 3 Weeks Teaching

*Late applications considered.

Stephen F. Austin State University, Nacogdoches 75962

MATHEMATICS AND STATISTICS

Applications due: 4/1/85*

T. A. Atchison, Chairman
Facility 24; Published 6
Graduate Students: full-time 9, full-time first year 3, part-time 2

Teaching Assistantship (10) 4725-5000 9 340 6 Months Teaching

*Late applications will be considered.

Texas A&M University, College Station 77843

MATHEMATICS

Applications due: 4/25/85

David R. Cecil, Chairman
Facility 15; Published 6
Graduate Students: full-time 6, full-time first year 2, part-time 3

Teaching Assistantship (8) 5316 9 6 Months Teaching

Texas A&M University, College Station 77843

STATISTICS

Applications due: 4/25/85

W. B. Smith, Head
Facility 16; Published 16
Graduate Students: full-time 37, full-time first year 10, part-time 4

Teaching Assistantship (13) 5625-6525 9* 500 20 Teaching
Research Assistantship (4) 5625-6525 9* 500 20-30 Research
NonTeaching Graduate Assistantship (10) 5625-6525 9* 500 20 Teaching related

*Summer support available.

Texas Tech University, Lubbock 79409

MATHEMATICS (Ad on p. 902)

John T. White, Chairman
Facility 49.5, Published 40
Graduate Students: full-time 67, full-time first year 25, part-time 13

Teaching Assistantship (49) 6600-7200 9 50 6 Months Teaching
Research Assistantship (5) 6600-7200 9 50 Research
Scholarship (2) 7100-7700 9 50 Research

SOUTHERN METHODIST UNIVERSITY
Dallas, Texas

M.S. and Ph.D. — In Applied Mathematics and Numerical Analysis

Particular strengths of the department include ordinary and partial differential equations, mathematical modeling, biomedical systems, asymptotic and perturbation methods, nonlinear waves, solitons, and various areas of numerical analysis such as nonlinear optimization, numerical bifurcation, numerical linear algebra, convection-diffusion problems, parameter estimation and identification, composite meshes and free-surface fluid problems. Courses are also available in the departments of Computer Science, Operations Research, and Statistics.

Teaching assistantships are available, requiring the equivalent of one course per semester. The stipend for 1984-85 was $6,250 a year with the waiver of tuition and fees.

Outstanding prospects are eligible for a Dean's Award, $2,000 additional per academic year and a $2,500 summer research support. This results in a total stipend of $10,750.

For more information call (214) 692-2506 or write;
Graduate Director — Department of Mathematics — Southern Methodist University — Dallas, Texas 75275

901
The University: Texas Tech University is located in Lubbock, Texas, a city of 200,000. Lubbock is in the South Plains of West Texas at an altitude of 3,250 feet. Dry, crisp air and sunny days throughout practically the entire year provide a healthful and invigorating climate. Texas Tech University is a multipurpose university and offers graduate work in most areas. A School of Medicine and a School of Law are housed on campus. Since 1952, approximately 1,600 doctorates have been awarded. The university enrolls 24,000 students with 3,300 graduate students.

The Department: The department offers graduate study in a broad range of areas, including applied mathematics, probability and statistics, analysis, algebra and topology leading to the M.S. and Ph.D. degrees. A special M.S. degree with emphasis in computer science and a M.A. degree designed for pre-college teachers is also offered.

The department has 49 faculty members and 49 supported teaching assistants. Active research is carried out in such areas as solar power, pattern recognition and video tracking, flow in porous media, three-dimensional seismic interpretation, wave propagation, transport theory, numerical analysis, nonlinear systems and control theory, several complex variables, statistics, topology, partial differential equations, geometric function theory and recursive function theory. Sixty-seven Ph.D.'s have been awarded by the department since 1967.

Financial Aid: Teaching assistant stipends for the academic year 1985-86 are expected to range from $6600-$7400. Summer support is usually available for those who want it. The State of Texas pays most of the employee's share of social security. Out-of-State tuition is waived for teaching assistants; the cost of tuition and fees is approximately $50 per semester.

Contact:

Dr. T. G. McLaughlin, Graduate Advisor
Department of Mathematics
Texas Tech University
Lubbock, Texas 79409.
<table>
<thead>
<tr>
<th>University of Houston–University Park, Houston 77004</th>
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<tbody>
<tr>
<td><strong>Mathematics</strong></td>
</tr>
<tr>
<td>Applications due: 2/15/85*</td>
</tr>
<tr>
<td>Garret J. Etgen, Chairman</td>
</tr>
<tr>
<td>Faculty 47; Published 36</td>
</tr>
<tr>
<td>Graduate Students: full-time 44, full-time first year 14, part-time 41</td>
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<tr>
<td>Fellowship (2) 8000 9 420 6 Teaching Ph. D. (81/84) ANT 1, AFA 1,</td>
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<tr>
<td>Teaching Fellowship (40) 6200–7000 9 420 5 Teaching GT 5, S 1, AM 2, Other 1,</td>
</tr>
<tr>
<td>Instructorship (3–5) 8000–12000 9 420 7.5 Teaching Total: 11</td>
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*Late applications considered if positions available.

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<th>University of Texas at Austin 78712</th>
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<tr>
<td><strong>Mathematics</strong></td>
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<tr>
<td>Applications due: 2/1/85*</td>
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<tr>
<td>John D. Dollard, Chairman</td>
</tr>
<tr>
<td>Faculty 66; Published 45</td>
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<td>Graduate Students: full-time 104, full-time first year 30, part-time 19</td>
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<tr>
<td>Teaching Fellowship (2) 8800–9300 9 500 Ph. D. (81/84) ANT 3, AFA 2,</td>
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<tr>
<td>Teaching Assistantship (87) 5700–7800 9 500 6** Ph. D. (81/84) S 9, CS 7,</td>
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<tr>
<td>Research Assistantship (5) 5400–7700 9 500 20 Research GT 3, P 1, S 2, OR 2, AM 4,</td>
</tr>
<tr>
<td>Scholarship (2) 1000–2000 9 500 Total: 17</td>
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*To receive full consideration.  **Half the duties of teaching assistant.  ***Recitation sections and related duties.

<table>
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<tr>
<th>University of Texas at Dallas, Richardson 75080</th>
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<tbody>
<tr>
<td><strong>Mathematical Sciences</strong></td>
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<tr>
<td>Applications due: *</td>
</tr>
<tr>
<td>John W. Van Ness, Head</td>
</tr>
<tr>
<td>Faculty 11; Published 11</td>
</tr>
<tr>
<td>Graduate Students: full-time 21, full-time first year 8, part-time 29</td>
</tr>
<tr>
<td>Teaching Assistantship (18) 8400–12000 12 400 20 Ph. D. (81/84) S 9, CS 7,</td>
</tr>
<tr>
<td>Research Assistantship (2) 7464–10344 12 400 20 AM 1. Total: 1</td>
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*Sixty days prior to registration.

<table>
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<tr>
<th>University of Texas at San Antonio 78285</th>
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<tbody>
<tr>
<td><strong>Mathematics, Computer Science and Systems</strong></td>
</tr>
<tr>
<td>Applications due: 12/1/84</td>
</tr>
<tr>
<td>Stanley G. Wayment, Division Director</td>
</tr>
<tr>
<td>Graduate Students: full-time –, full-time first year –, part-time –</td>
</tr>
<tr>
<td>Teaching Assistantship (5) 8000–8450 9 645* 10–20 Grading, teaching, research</td>
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*For Texas residents.

<table>
<thead>
<tr>
<th>West Texas State University, Canyon 79016</th>
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<tbody>
<tr>
<td><strong>Mathematics and Physics</strong></td>
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<tr>
<td>Applications due: 3/1/85</td>
</tr>
<tr>
<td>Vaughn Nelson, Head</td>
</tr>
<tr>
<td>Faculty 11; Published 2</td>
</tr>
<tr>
<td>Graduate Students: full-time 10, full-time first year 4, part-time 4</td>
</tr>
<tr>
<td>Teaching Assistantship (4) 4800 9 400 6*</td>
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### THE UNIVERSITY OF TEXAS AT AUSTIN

#### Dodd Teaching Fellowship

Several Dodd Teaching Fellowships are available each year to graduate students new to UT Austin. They are renewable for one year upon (expected) superior performance. The stipend will be $8,800 for nine months beginning in September, 1984; tuition is low but not waived. In addition to the large stipend, teaching duties are reduced compared to those of a standard teaching assistantship.

For further information and application materials write to:

**Graduate Student Selection Committee**

Mathematics Department

The University of Texas

Austin, Texas 78712
Utah

Brigham Young University, Provo 84602

MATHEMATICS

Applications due: 7/1/85

Bachelor's by inst. 2157

Bachelor's by dept. 25

Master's by dept. 2

Ph.D. (81/84) AFA 3, GT 3, CS 1, AM 2. Total: 9

Peter L. Crawley, Chairman

Fellowship (50)

1596–2680

8 *

10 Teaching

Scholarship (6–10)

**

8 *

Internship (2)

*

10 Research

-Unknown at this time.

**Half tuition to full tuition.

STIPEND FEES paid to student paid by dollars months student ($)

Utah SERVICE REQUIRED hours type of service

Graduate Students: full-time 1; full-time first year 1; part-time 5

Fees

Service Required

Type

 Brigham Young University, Provo 84602

MATHEMATICS

Applications due: 7/1/85

Bachelor's by inst. 2157

Bachelor's by dept. 12

Master's by dept. 3

Ph. D. (81/84) AFA 3, GT 3, CS 1, AM 2. Total: 9

Peter L. Crawley, Chairman

Fellowship (5)

8000–8500

12 800 20

Teaching Assistantship (10)

7500–8000

12 800 20

Research Assistantship (7)

7500–8000

12 800 20

University of Utah, Salt Lake City 84112

MATHEMATICS

Applications due: 3/15/85

Bachelor's by inst. 2547

Bachelor's by dept. 39

Master's by dept. 4

Ph. D. (81/84) AFA 3, GT 3, CS 1, AM 2. Total: 9

Frank C. Hoppensteadt, Chairman

Fellowship (30)

9000

9 Waived 20

Teaching Assistantship (20)

8500

9 Waived 20

Utah State University, Logan 84322

APPLIED STATISTICS

Applications due: 7/31/85

Bachelor's by inst. 1473

Bachelor's by dept. 2

Master's by dept. 5

Ph. D. (81/84) AFA 3, GT 3, CS 1, AM 2. Total: 9

Donald V. Sisson, Head

Fellowship (2)

500–1000

9 *

Teaching Assistantship (3-4)

4800

9 20

Vermont

University of Vermont, Burlington 05405

MATHEMATICS AND STATISTICS

Applications due: 3/1/85

Bachelor's by inst. 1742

Bachelor's by dept. 46

Master's by dept. 6

Ph. D. (81/84) AFA 3, GT 3, CS 1, AM 2. Total: 9

Roger L. Cooke, Chairman

Fellowship (14)

5700

9 41 6 Teaching

Virginia

College of William and Mary, Williamsburg 23185

MATHEMATICS

Applications due: 4/1/85

Bachelor's by inst. 1043

Bachelor's by dept. 36

Master's by dept. 5

Ph. D. (81/84) AFA 3, GT 3, CS 1, AM 2. Total: 9

John H. Drew, Chairman

Fellowship (14)

4000

9 10 Grading
Old Dominion University, Norfolk 23508

Mathematics

Applications due: 5/1/85
Bachelor's by inst. 1824

John Tweed, Chairman
Faculty 24; Published 16
Graduate Students: full-time 20; full-time first year 10; part-time 20
Ph. D. (81/84) S 1, AM 1.

Fellowship (7) 3000-4500 9 9
Teaching Assistantship (20) 5000-7000 9 20 Teaching, grading Total: 2
Research Assistantship (3) 5000-10000 9 20 Research
Summer Teaching/Research (10) 2000

Utah State University

Introduces A PHD Program In Mathematical Sciences

In September 1985, Utah State University will begin a new graduate program in mathematics with three different emphases leading to the PhD degree.

Traditional Mathematics Option
The Department will offer graduate study in areas including applied mathematics, differential equations, analysis, topology, geometry, matrix theory, algebra and probability.

Interdisciplinary Mathematics Option
This program offers a flexible course of study which combines mathematics with an area of application.

College Teaching Option
This program will train teachers for two and four-year colleges. The student will obtain a broad background in advanced mathematics, together with experience in teaching undergraduate mathematics.

Teaching assistantships are readily available for students interested in the M.S. and/or PhD degrees. Assistantships will range from $7500-$8500.

Utah State University is located in Logan, a city of about 30,000 residents. Logan is about 80 miles north of Salt Lake City in the picturesque Wasatch Mountain Range. The university's location offers many recreational and cultural opportunities to students. There are about 12,000 students including about 2500 full-time graduate students.

For more information on the graduate programs, contact the:
Graduate Chairman,
Department of Mathematics, UMC 41,
Utah State University
Logan, Utah 84322
(801) 750-2809

THE DEPARTMENT OF MATHEMATICAL SCIENCES
OLD DOMINION UNIVERSITY

offers M.S. and Ph.D. programs in COMPUTATIONAL AND APPLIED MATHEMATICS. Emphasis areas include analytical and computational methods, numerical analysis, statistics, modeling, and applications (atmospheric sciences, oceanography, fluid and solid mechanics, ecosystem studies, economics and operations research).

ODU is a public, state-supported institution located in Norfolk, VA, heart of the historic Tidewater region. Scientific facilities of the region include the NASA-Langley Research Center, the Institute for Computer Applications in Science and Engineering (ICASE), and the Atlantic Marine Center of the National Oceanographic and Atmospheric Administration (NOAA).

Financial aid is available in the form of research and teaching assistantships and fellowships with stipends up to $10,000 per academic year.

Further information and application forms may be obtained by writing to:
GRADUATE PROGRAM DIRECTOR — Department of Mathematical Sciences
Old Dominion University — Norfolk, VA 23508

905
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**University of Virginia, Charlottesville 22903**

**APPLIED MATHEMATICS**  
Applications due: 2/1/85*  
James M. Ortega, Chairman  
Faculty 10; Published 7  
Graduate Students: full-time 19; full-time first year 11; part-time 1  
Teaching Fellowship (2)  7000-8000 9 10  
Teaching Assistantship (6-8)  7800-8700 9 0-1800 20  
Research Assistantship (8-10)  7800-8700 9 0-1800 20  
*For initial round of offers.

**MATHMATICS**  
Applications due: 2/1/85  
E. C. Paige, Chairman  
Faculty 26; Published 27  
Graduate Students: full-time 39; full-time first year 14; part-time 0  
Fellowship (10)  7000-7500 9  
Teaching Fellowship (2)  7000-8500 9 0-2000 6  
Teaching Assistantship (30)  7000-8500 9 0-2000 6

**Virginia Commonwealth University, Richmond 23284**

**MATHMATICAL SCIENCES**  
Applications due: 7/1/85  
William E. Haver, Chairman  
Faculty 30; Published 26  
Graduate Students: full-time 16; full-time first year 9; part-time 23  
Teaching Assistantship (20)  6000-8000 9 15

**Virginia Polytechnic Institute and State University, Blacksburg 24061**

**MATHMATICS**  
Applications due: 5/1/85  
C. Wayne Patty, Head  
Faculty 76; Published 49  
Graduate Students: full-time 53; full-time first year 25; part-time 2  
Teaching Assistantship (50)  6705-7380 9 1674 20

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**UNIVERSITY OF VIRGINIA**

**GRADUATE STUDIES IN APPLIED MATHEMATICS**

The Department of Applied Mathematics offers masters and Ph.D. degrees in Applied Mathematics. The research strengths in the department are in the areas of scientific computing and numerical analysis with particular emphasis on the use of supercomputers, in theoretical and computational fluid and solid mechanics, and in control theory. The Department has a close association with Computer Science and the location of the Department within the School of Engineering and Applied Science allows for programs of study which combine courses in Applied Mathematics with courses in Computer Science and in Engineering. Research and teaching assistantships are available, with possible tuition fellowships. For information write:

Department of Applied Mathematics  
University of Virginia, Thornton Hall, Charlottesville, VA 22903

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**UNIVERSITY OF VIRGINIA**

**GRADUATE STUDIES IN MATHEMATICS**

The Department of Mathematics offers Masters and Ph.D. programs. There are particular strengths in algebra, analysis, and topology which support research activity in a broad range of fields. These include—

- mathematical physics, statistics, probability and stochastic models, stochastic processes, ergodic theory, function theory, harmonic analysis, operator theory, special functions, commutative algebra, finite and algebraic groups, coding theory, Jordan and Lie algebras, algebraic K-theory, algebraic topology, and topology of manifolds.

A variety of financial aid arrangements are available including fellowships and teaching assistantships. For information write:

Department of Mathematics  
Mathematics/Astronomy Building  
Charlottesville, Virginia 22903

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STATISTICS

Klaus Hinkelmann, Head
Teaching Assistantship (27)  6570-7245  9  *  20  Teaching, consulting
Research Assistantship (5)  6570-7245  9  *  20  Teaching, consulting

*In-state: $692 per quarter; out-of-state: $755 per quarter. Out-of-state differential will be waived for students on support who are paid a minimum of $2000 per year.

Central Washington University, Ellensburg 98926
MATHEMATICS
W. F. Cutlip, Chairman
Teaching Assistantship (4)  4760  9  1320  20

Eastern Washington University, Cheney 99004
MATHEMATICS
Wesley C. Stone, Chairman
Teaching Assistantship (3)  4750  9  1500  15
Graduate Assistantship (5)  8250-10000  9  1500  20

University of Washington, Seattle 98195
APPLIED MATHEMATICS
Frederic Y. M. Wan, Chairman
Fellowship (3)  2000-8000  9  1890
Teaching Assistantship (10)  872/mo.  9  1890  20  Teaching, grading
Research Assistantship (8)  854-960/mo.  12  1890  20  Research

BIOMATHEMATICS GROUP, BIOSTATISTICS
Richard A. Kronmal, Chairman, Biomathematics Group
Fellowship (1)  5292  12
Graduate Assistantship (4)  10464-11736  12  2324  20  Grading, teaching
Research Assistantship (24)  10464-11736  12  2324  20  Research

COMPUTER SCIENCE
Paul Young, Chair
Fellowship (5)*  9600  12  **  20
Research Assistantship (11)*  8000  9  **
Research Assistantship (30)*  8000-9000  9  **

*Figures are approximate and subject to change.
**Resident: $1890; nonresident: $4692, summer not included.

WASHINGTON

Washington State University, Pullman 99164
MATHEMATICS
Michael J. Kallahi, Chairman
Teaching Assistantship (35)  7875-8289  9  1890  20
Research Assistantship (2)  9372-9876  12  1890  20  Research
Western Washington University, Bellingham 98225

MATHMATICS
Applications due: 4/1/85
Bachelor's by inst. 1526
Graduate Students: full-time; full-time first year; part-time

Teaching Assistantship (12) 5442 9 483 5

Marshall University, Huntington 25701

MATHMATICS
Applications due: 4/15/85
Bachelor's by dept. 6
Graduate Students: full-time; full-time first year; part-time

Teaching Assistantship (10) 1530-3060 9 300 3-6
Tutor (3) 1100-2200 9 300 10-20

West Virginia University, Morgantown 26506

MATHMATICS
Faculty 33; Published 20
Bachelor's by inst. 483
Graduate Students: full-time; full-time first year; part-time

Teaching Fellowship (1) 9700-10000 9
Teaching Assistantship (15) 3870 9

West Virginia University, Morgantown 26506

STATISTICS AND COMPUTER SCIENCE
Applications due: 5/15/85
Bachelor's by inst. 483
Graduate Students: full-time; full-time first year; part-time

Teaching Assistantship (10) 6003 9-12 90 14 Teaching
Research Assistantship (6) 6507-7740 9-12 90 20 Consulting, research

Wisconsin

Marquette University, Milwaukee 53233

MATHMATICS, STATISTICS AND COMPUTER SCIENCE
Applications due: 2/15/85
Bachelor's by inst. 2464
Graduate Students: full-time; full-time first year; part-time

Teaching Assistantship (18) 5400-5700 9 9
Research Assistantship (3) 5400-5700 9 15
Scholarship (7) 152-912 9
Self-supporting 152/cr.

University of Wisconsin–Eau Claire 54701

MATHMATICS
Applications due: 3/1/85
Bachelor's by inst. 1736
Graduate Students: full-time; full-time first year; part-time

Graduate Assistantship (1 or 2) 5140 9 20 Grading, research

*Resident: $736; nonresident: $2140.

Washington State University

M.S. and Ph.D. in Computer Science

6 Instructorships* $13,500
3 Fellowships $ 5,500 + tuition
6 Research Assistantships $ 7,668
32 Teaching Assistantships $ 7,875

Apply for assistantships by November 1 for Spring Semester and March 1 for Fall Semester.
A few summer teaching assistant positions are also available.
*Awarded to excellent applicants for Ph.D. degree or applicants with advanced degree (may be in other field) and teaching experience.
University of Wisconsin, Madison 53706

COMPUTER SCIENCES

Applications due: 1/15/85
Bachelor's by inst. 5466

Charles Fischer, Chairman
Faculty 37; Published 28

Graduate Students: full-time 150, full-time first year 68; part-time 61

Ph. D. (81/84) CS 16. Total: 16

Fellowship (10) 8000–9000 9 0–1131 0–1131 0–1131 15–20 Grading, teaching

Teaching Assistantship (135) 6314–8665 9 1131 1131 1131

Research Assistantship (37) 6645 9 1131 20 Research

STIPEND FEES SERVICE REQUIRED DEGREES AWARDED

Academic year 1983–1984

University of Wisconsin-Madison 53706

MATHMATICS

Applications due: 12/31/84
Bachelor's by inst. 5466

J. Marshall Osborn, Chairman
Faculty 77; Published 69

Graduate Students: full-time 121; full-time first year 33; part-time 63

Ph. D. (81/84) ANT 9, AFA 13, GT 5, L 10, P 2. Total: 39

Fellowship (10) 9936 12 2315 9–12 Research

Teaching Assistantship (180) 6179–11746 9 1878 18–25 Teaching

Research Assistantship (32) 5323–6645 9 1878 9–12 Research

APPLICATIONS DUE

MATHEMATICAL SCIENCES

Applications due: * Bachelor's by inst. 2276

D. J. Patil, Chairman
Faculty 29; Published 19

Graduate Students: full-time 48; full-time first year 17; part-time 2

Ph. D. (81/84) AFA 2. Total: 2

Fellowship (2) 7200** 9 1500** 9 Waived

Teaching Assistantship (49) 8900–9300** 9 1500** 6' Teaching

*Fellowships: 2/1/85, assistantships: 7/1/85.

**Stipend levels and tuition are subject to change.

University of Wisconsin-Oshkosh 54901

MATHEMATICS

Applications due: 5/1/85 Bachelor's by inst. 1281

N. J. Kuenzi, Chairman
Faculty 27; Published 7

Graduate Students: full-time 2; full-time first year 1; part-time 14

Master's by dept. 1

Assistantship (2) 5000 9 1000 20

Wyoming

University of Wyoming, Laramie 82071

STATISTICS

Applications due: 4/85 Master's by dept. 0

Lyman L. McDonald, Chairman
Faculty 5; Published 4

Graduate Students: full-time 19; full-time first year 5; part-time 5

Ph. D. (81/84) S 9. Total: 9

Teaching Assistantship (7) 2767.50–5535 9 Waived 18

Research Assistantship (2) 2767.50–5535 9 Waived 18–20

Canada

Carleton University, Ottawa, Ontario K1S 5B6

MATHEMATICS AND STATISTICS

Applications due: 3/1/85 Bachelor's by inst. 1825

B. M. Puttaswamaiah, Chairman
Faculty 35; Published 27

Graduate Students: full-time 46; full-time first year 18; part-time 23

Ph. D. (81/84) ANT 4, AFA 3, GT 1, S 1, AM 2. Total: 11

Teaching/Research

Assistantship (30) 8000–11000 12 10 Grading

Concordia University, Montreal, Quebec H4B 1R6

MATHEMATICS (Ad on p. 910) Bachelor's by inst. 2956

H. Propp, Chairman
Faculty 38, Published 38

Graduate Students: full-time 15; full-time first year 6; part-time 5

Ph. D. (81/84) ANT 4. Total: 23

Teaching Assistantship (10) 8000 12 10

Fellowship (10–12) 6500 9 10

*Resident: $250; foreign student: $400.
Dalhousie University, Halifax, Nova Scotia B3H 4H8

MATHEMATICS, STATISTICS, AND COMPUTING SCIENCE

Applications due: 3/31/85
Bachelor's by inst. 1400
Bachelor's by dept. 60
Ken Dunn, Chairman
Faculty 40; Published 32
Graduate Students: full-time 19; full-time first year 4; part-time 0
Ph. D. (81/84) ANT 1, AFA 3, AM 2. Total: 6
Fellowship (2) 11400 12 1495
Ph. D. (81/84) ANT 1, AFA 3, AM 2. Total: 6
Teaching Fellowship (6) 8500-9000 12 1495 6

Lakehead University, Thunder Bay, Ontario P7B 5E1

MATHEMATICAL SCIENCES

Applications due: Open
Bachelor's by inst. 833
C. F. Kent, Chairman
Faculty 15; Published 6
Graduate Students: full-time 2; full-time first year 2; part-time 1
Master's by dept. 3
Teaching Assistantship* 3696 9 ** 10
Scholarship (8) 1200 **
C. J. Sanders Scholarship (1) 1800 **
C. J. Sanders Scholarship (1) 1200 **
*Unlimited.

**Canadian Landed Immigrant: $1285 first year, $500 second year; visa student: $7275 total for first three terms.

McGill University, Montréal, Québec H3A 2K6

MATHEMATICS AND STATISTICS

Applications due: 2/1/85
Bachelor's by inst. 2913
Michael Herschorn, Chairman
Faculty 44; Published 30
Graduate Students: full-time 49; full-time first year 17; part-time 0
Master's by dept. 7
Ph. D. (81/84) ANT 3, AFA 4, GT 1, S 1, AM 2. Total: 11
Students getting financial aid receive a minimum of $7000 for mixed duties.

Memorial University of Newfoundland, St. John's, Newfoundland A1B 3X7

MATHEMATICS AND STATISTICS

Faculty: Published -
J. H. Berry, Head
Graduate Students: full-time 0; full-time first year 0; part-time 1
Ph. D. (81/84) GT 1. Total: 1
Teaching Assistantship (2) 3285-3762 12 Grading
Graduate Fellowship (3) 5000-8000 12 858-1077

Queen's University, Kingston, Ontario K7L 3N6

MATHEMATICS AND STATISTICS

Applications due: 2/85
Bachelor's by inst. 3117
L. L. Campbell, Dean
Faculty 44; Published 32
Graduate Students: full-time 24; full-time first year 11; part-time 8
Master's by dept. 6
Ph. D. (81/84) ANT 3, GT 1, S 1, CS 1, AM 1. Total: 7
Teaching Assistantship (20) 2210-9500 8-12 ** 0-5-10 Grading, teaching, research
University Scholarship (14) 1000-5500 12
OGS, NSERC, Commonwealth, Italian (6) 6585-11600 12

*Canadian and Landed Immigrants: $1298 per year; foreign students: $6171 per year.

Université Laval, Québec, Québec G1K 7P4

MATHÉMATIQUES

Applications due: 3/1/85
Bachelor's by inst. 4908
Bernard R. Hodgson, Directeur
Faculty 35; Published 27
Graduate Students: full-time 29; full-time first year 3; part-time 7
Master's by dept. 4
Ph. D. (81/84) AFA 3, AM 1. Total: 4
Students getting financial aid receive a minimum of $6000 for mixed duties. Knowledge of French required.

CONCORDIA UNIVERSITY

The Department of Mathematics offers graduate programs leading to the M.A. and M.Sc. degree in pure mathematics, applied mathematics and statistics. A separate program concentrates on mathematics education. Major areas of research for its 38 faculty are: mathematical physics, dynamical systems, ergodic theory, global analysis, statistics, algebra, econometrics, mathematical biology, reliability theory, Iwasawa theory, Lie theory, number theory, control theory, optimization, logic and categories, stochastic process, topology. Most full-time students receive some financial aid either externally or from the department. Maximum departmental support in 1984-85 was $8,000 for twelve months.

The University is located in Montreal, which has a rich and cosmopolitan cultural life. Students also benefit from courses and expertise available at four institutions of higher learning. Inquiries are invited and should be addressed to:

R. Raphael, Director, M.A./M.Sc. Program
Department of Mathematics, Concordia University
7141 Sherbrooke St. W., Montreal, Quebec, Canada H4B 1R6

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University of Alberta, Edmonton, Alberta T6G 2G1

MATHEMATICS

Jack W. Macki, Chairman

Faculty 55; Published 48

Graduate Students: full-time 20; full-time first year 5; part-time -

Fellowship (2)

Teaching Assistantship (25)

7750-9114 9 964 12 Grading, teaching

Ph. D. (81/84) AFA 1, GT 1, AM 2. Total: 4

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Graduate Programs in Mathematical Science
(M.A. & M.Sc.)

The Department of Mathematical Sciences offers graduate programs leading to the M.A. and M.Sc. degrees by course work or thesis. The research areas of the faculty include analysis, algebra, topology, numerical analysis, logic, combinatorics, computer science, and statistics. Financial support includes teaching assistantships, scholarships and fellowships.

Secretary, Dept. of Mathematical Sciences
Lakehead University
Thunder Bay, Ontario, P7B 5E1

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THE UNIVERSITY OF ALBERTA

The University of Alberta offers graduate programs leading to the M.Sc. degree with thesis, the M.Sc. non-thesis degree and the Ph.D. degree in most branches of Pure and Applied Mathematics represented by its 57 member Department of Mathematics. Opportunities for studies of an interdisciplinary nature are provided in co-operation with other departments, including the Departments of Statistics and Applied Probability, Computing Science and Physics.

Teaching Assistantships are available carrying a stipend between $7750 and $9114 for 8 months. In addition summer support of about $2,500 is generally available.

The University of Alberta, Canada's third largest University, is located in Edmonton, Alberta's capital city of 550,000 people, providing a wide variety of cultural and recreational attractions.

Inquiries are invited and should be addressed to:

The University of Alberta, Edmonton, Alberta, Canada T6G 2G1
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<th>University of Calgary, Calgary, Alberta T2N 1N4</th>
<th>University of Guelph, Guelph, Ontario N1G 2W1</th>
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THE UNIVERSITY OF CALGARY
Graduate Studies in Mathematics and Statistics

Research Areas:


Teaching/Research Assistantships: $5,850-$9,120 for 8 months. In addition summer support of about $3,600 is generally available.

For further information write to: The Director of Graduate Studies, Department of Mathematics and Statistics, University of Calgary, 2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4.

912
University of Ottawa, Ottawa, Ontario K1N 9B4

MATHEMATICS Applications due: 3/1/85 Bachelor's by inst. 3225
M. A. Deruaz, Chairman Faculty 28; Published 22 Bachelor's by dept. 2

- NSERC Fellowship (2) 11100 12 * Graduate Students: full-time 5; full-time first year 2; part-time 1
- Teaching Assistantship (10) 8500-9500 12 * 10 Grading, teaching
- Ontario Graduate Scholarship (2) 6585 12
- University of Ottawa Scholarship (3) 1000-11500 12

*Canadians: $1184, foreigners: $5334.

University of Toronto, Toronto, Ontario M5S 1A1

MATHEMATICS Applications due: 2/1/85 Bachelor's by inst. 8000
Thomas Bloom, Chairman Faculty 55; Published 45 Bachelor's by dept. 20

- NSERC Fellowship (3) 11600 9 * Research
- Research Assistantship (5) 6500 9 * Research
- Ontario Graduate Scholarship (3) 6900 9 * Research
- University Open Fellowship (5) 6500 9 * Research

*Tuition is about $1300 for Canadian residents, and $6200 for visa students.

University of Waterloo, Waterloo, Ontario N2L 3G1

APPLIED MATHEMATICS Applications due: 4/30/85 Bachelor's by inst. 3000
Bruno Forte, Chairman Faculty 22; Published 16 Bachelor's by dept. 21

- Teaching Assistantship (24) 1554-9324 12 * 5-10 Grading, tutoring Ph. D. (81/84) AM 4. Total: 4
- Research Assistantship (10) 2000-9000 12 * 2-10 Research
- Scholarship (8) 6915-17500 12 *
- University Bursary (12) 800-1500 12 *

*Projected fees will be about $1500 per year for Canadian students and about $7475 per year for visa students.

COMBINATORICS AND OPTIMIZATION Applications due: 9/1/85 Bachelor's by inst. 3000
Paul J. Schellenberg, Chairman Faculty 21; Published 18 Bachelor's by dept. 14

- Teaching Assistantship (11) 1554-9324 12 * 5-10 Grading, tutoring Ph. D. (81/84) ANT 13, OR 2. Total: 15
- Research Assistantship (10) 1800-10500 12 * 2-10 Research
- Scholarship (8) 6915-17500 12 *
- University Bursary (8) 500-2500 12 *

*Projected fees will be about $1500 per year for Canadian students and about $7475 per year for visa students.

UNIVERSITY OF TORONTO

GRADUATE STUDIES IN PURE AND APPLIED MATHEMATICS

The Department of Mathematics offers graduate programs leading to M.Sc. and Ph.D. degrees in both pure and applied mathematics. Major fields of research of its fifty-five staff members include combinatorics, number theory, automorphic forms and representation theory, group theory, matrix theory, functional analysis, several complex variables, algebraic topology, differential geometry, algebraic geometry, geometric algebra, ordinary and partial differential equations, set theory and set-theoretic topology, fluid mechanics, quantum mechanics, relativity, control theory, mathematical economics and linguistics, etc. Computer facilities of the University include IBM 3033, 4341, DEC 10 and several VAX 11's. Financial aid is available in the form of research and teaching fellowships and assistantships with stipends up to $8,000. The University of Toronto is Canada's largest university and Toronto is a cosmopolitan city of 2.5 million with a wide variety of cultural and recreational amenities.

For further information write to: Graduate Coordinator, Department of Mathematics, University of Toronto, Toronto, Canada, M5S 1A1.
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<td>R. Bruce Simpson, Chairman</td>
<td>Faculty 46; Published 42</td>
<td>Graduate Students: full-time 142; full-time first year 57; part-time 13</td>
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*Projected fees will be about $1500 per year for Canadian students and about $7475 per year for visa students.

PURE MATHEMATICS
Peter N. Hoffman, Chairman

Applications due: 4/15/85
Graduate Students: full-time 12; full-time first year 1; part-time 0
Ph. D. (81/84) ANT 3, GT 1.
Total: 4

Teaching Assistantship (9) | 1554-7970 | 12 | * | 5-10 Grading, tutoring |
Research Assistantship (7) | 1800-4000 | 12 | * | 2-10 Research |
Scholarship (5) | 6915-17500 | 12 | * |
University Bursary (6) | 1000-2300 | 12 | * |

*Projected fees will be about $1500 per year for Canadian students and about $7475 per year for visa students.

STATISTICS AND ACTUARIAL SCIENCE
John D. Kalbfleisch, Chairman

Applications due: 3/31/85
Graduate Students: full-time 34; full-time first year 10; part-time 2
Ph. D. (81/84) S. B. Total: 9

Teaching Assistantship (20) | 1554-9324 | 12 | * | 5-10 Grading, tutoring |
Research Assistantship (11) | 1200-9600 | 12 | * | 2-10 Research |
Scholarship (3) | 6915-17500 | 12 | * |
University Bursary (4) | 500-1500 | 12 | * |

*Projected fees will be about $1500 per year for Canadian students and about $7475 per year for visa students.

University of Western Ontario, London, Ontario N6A 5B9

APPLIED MATHEMATICS
T. M. Luke, Chairman

Applications due: 3/31/85
Graduate Students: full-time 17; full-time first year 3; part-time 2
Ph. D. (81/84) AM 3. Total: 3

Teaching Assistantship | 11040 | 12 | 1930 | 10 | Tutoring, grading |

COMPUTER SCIENCE
E. W. Elcock, Head

Applications due: 4/30/85
Graduate Students: full-time 20; full-time first year 14; part-time 20
Master's by dept. 5

Teaching Assistantship (11) | 7200 | 12 | 10 | Teaching |
Research Assistantship (2) | 7200 | 12 | 10 | Research |
OGS | 5200 |
NSERC | 8800 |

MATHMATICS
D. Borwein, Head

Applications due: 3/31/85
Graduate Students: full-time 8; full-time first year 4; part-time 0
Ph. D. (81/84) ANT 1, AFA 1, |
Total: 2

Teaching Assistantship (5-10) | 5260-5500 | 8 | 1430* | 10 | Grading |
Research Assistantship (4-6) | 3400-4200 | 12 | 10 | Research |
Scholarship (7-10) | 1600-12000 | 12 | |

*Estimate. Tuition for visa students $7000 (estimate). Some visa students with sufficiently high academic standing may receive bursaries to defray tuition costs.

York University, Downsview, Ontario M3J 1P3

MATHEMATICS
P. Olin, Chairman

Applications due: |
Graduate Students: full-time 26; full-time first year 14; part-time 34
Master's by dept. 19

Teaching Assistantship (33) | 6500-9500 | 9 | ** | 10 | Grading |
Research Assistantship (5) | 1000-5000 | 9 | ** |
Scholarship (3) | 1000-3000 | 9 | ** |

*Foreign students: 4/1/85; Canadian students: 6/1/85.
**Canadian: $1550; visa: $7520 (three terms).
Critical, Historical, or Expository Theses

Departments supplying the information published on the preceding pages were asked the following question: Will your department accept a critical, historical or expository thesis of sufficiently high quality for the Ph.D. degree? D.A. degree? or other degree? Affirmative responses to this question are listed below.

Alabama
Univ of Alabama, Huntsville
Computer Science
Ph.D.

Kansas
Kansas State Univ
Computer Science
Ph.D.

Ohio
Ohio Univ
Mathematics
Ph.D.

California
Univ of California, Berkeley
Industrial Engineering and Operations Research
D.Eng.

Louisiana
Louisiana State Univ
Quantitative Business Analysis
Ph.D.

Oklahoma
Oklahoma State Univ
Computer Science
Ed.D.

Univ of California, Davis
Mathematics
Ph.D.

Pennsylvania
Carnegie-Mellon Univ
Mathematics
D.A.

Colorado
Univ of Northern Colorado
Mathematics and Applied Statistics
Ph.D.

Mississippi
Mississippi State Univ
Business Information Systems and Quantitative Analysis
D.B.A.

Texas
North Texas State Univ
Mathematics
Ed.D.

Connecticut
Yale Univ
Statistics
Ph.D.

Missouri
St. Louis Univ
Mathematics and Computer Sciences
Univ of Missouri-Rolla
Engineering Mechanics
Ph.D.

Utah
Utah State Univ
Mathematics
Ph.D.

Florida
Univ of Miami, Coral Gables
Mathematics and Computer Science
D.A.

Virginia
Virginia Polytechnic Institute and State Univ
Mathematics
Ph.D.

Idaho
Idaho State Univ
Mathematics
Ph.D.

Washington
Univ of Washington
Mathematics
Ph.D.

Illinois
Illinois State Univ
Mathematics
D.A.

Washington State Univ
Mathematics
D.A.

Northwestern Univ
Industrial Engineering and Management Sciences
Ph.D.

Wisconsin
Univ of Wisconsin, Madison
Computer Science
Ph.D.

Univ of Illinois, Chicago
Mathematics, Statistics, and Computer Science
D.A.

Ph.D.

Wyoming
Univ of Wyoming
Statistics
Ph.D.

Indiana
Purdue Univ
Mathematics
Ph.D.

Canada
Univ of Western Ontario
Applied Mathematics
Ph.D.

Iowa
Univ of Iowa
Computer Science
Ph.D.

Mathematics
Ph.D.

North Carolina
North Carolina State Univ
Mathematics and Science Education
Ph.D.

Univ of Missouri-Rolla
Ph.D.

New Mexico
New Mexico Institute of Mining and Technology
Computer Science
Ph.D.

New York
Cornell Univ
Mathematics
Ph.D.

Univ of Wisconsin, Madison
Ph.D.

Mathematics
Ph.D.

Syracuse Univ
Mathematics
Ph.D.

Wyoming
Ph.D.

New York
Cornell Univ
Mathematics
Ph.D.

Univ of Wyoming
Statistics
Ph.D.

Ph.D.

Univ of Wisconsin, Madison
Ph.D.

Mathematics
Ph.D.

Statistics
Ph.D.

Univ of Western Ontario
Ph.D.

Applied Mathematics
Stipends for Study and Travel

Graduate Support

American Association for the Advancement of Science. Summer Fellowship. Provides support for up to twenty outstanding graduate students in the social and natural sciences and engineering as intern reporters, researchers, and production assistants in the mass media for 10 weeks during the summer of 1985. (Exceptional undergraduate or postdoctoral students will also be considered.) Fellows will work for radio and television stations, newspapers and magazines and will have their travel expenses and stipends paid by the AAAS. Fellows will have the opportunity to: observe and participate in the process by which events and ideas become news; improve their communication skills by teaming to describe complex technical subjects in a manner understandable by the public; and increase their understanding of editorial decision-making and the manner in which information is effectively disseminated. Each fellow will: attend an orientation and evaluation session in Washington, D.C.; begin the internship in mid-June; and submit an interim and final report to AAAS to help evaluate the program. Interested students should write for more information and application procedures to: Coordinator, Mass Media Science and Engineering Fellow Program, American Association for the Advancement of Science, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036. Application deadline will be February 1.

American Society for Engineering Education. ONR Graduate Fellowship Program. About 40 three-year fellowships will be granted by the Office of Naval Research to support study and research leading to a doctoral degree in one of the following fields: electrical engineering, computer science, naval architecture and ocean engineering, materials science, applied physics, aerospace/mechanical engineering, physical oceanography and life sciences. Applicants must be citizens or nationals of the U.S. (of any age) who will receive their baccalaureate degree in 1985, or who, by reason of military service, have not attended graduate school since receiving their baccalaureate degree. The fellowships, tenable at U.S. institutions offering doctoral degrees in the designated science and engineering disciplines, offer a stipend of $13,000 per 12-month year. In addition, ONR will provide the affiliated institution, on behalf of each Fellow, full tuition and fees, and will provide $2,000 per year to the Fellow’s department. The application deadline is 1 February 1985. Application materials are available from the American Society for Engineering Education (ASEE), Eleven Dupont Circle, Suite 200, Washington, D.C. 20036, (202-745-3616 or 202-293-7080).

Associated Western Universities (AWU). AWU is a contractor for the U.S. Department of Energy, providing stipends and other necessary remuneration to teaching faculty members and to student participants who desire to become involved in an energy or energy-related research project at one of the cooperative laboratories or centers in the western U.S. For information telephone or write to Associated Western Universities, Inc., 142 East 200 South, Suite 200, Salt Lake City, Utah 84111, (801-364-5659).

California State Graduate Fellowships. The state offers fellowships of up to $5830 to cover tuition and fees only, for residents of California who attend accredited graduate or professional schools located in California. Write to Graduate Fellowship Section, California Student Aid Commission, 1410 Fifth Street, Sacramento, California 95814. The application deadline for 1985-1986 awards is February 11, 1985.

Center for Naval Analyses. Summer Employment. CNA, operated under contract with the Hudson Institute, is engaged in a broad spectrum of operations research and systems analysis studies for the U.S. Navy, Marine Corps, and other government agencies. Opportunities are available for graduate students in operations research, economics, engineering, mathematics, physics, and statistics. Assignments include analysis related to force level planning, manpower, logistics, and operational effectiveness. U.S. citizenship required. Information may be obtained from Mr. P. D. Moke, Employment Manager, Center for Naval Analyses, 2000 N. Beauregard Street, Alexandria, Virginia 22311.

Committee on Institutional Cooperation. CIC Minorities Fellowships in the Sciences, Mathematics and Engineering. Fellowships are offered to American Indians, Black Americans and Hispanic Americans for graduate study leading to the Ph.D. The fellowships provide full tuition plus an
annual stipend of at least $6,000 for each of four years. They may be used at any of these eleven
CIC universities: University of Chicago, University of Illinois, Indiana University, University of
Iowa, University of Michigan, Michigan State University, University of Minnesota, Northwestern
University, Ohio State University, Purdue University, or University of Wisconsin. The deadline
for applications for the 1985-1986 academic year is January 18, 1985. Detailed information
about the program can be obtained by writing to the CIC Minorties Fellowships Program, 111
Kirkwood Hall, Indiana University, Bloomington, Indiana 47405.

Georgia Institute of Technology. President's Fellowships. These stipends of $10,000 for twelve
months, plus waiver of all tuition and fees, are awarded to first-year Ph.D. students and
exceptional Masters students. The awards are highly competitive; selection is based on academic
criteria and evidence of scholarship. Participants are expected to maintain high academic
standing. The Fellowship is renewable upon review for an additional two years. Graduate
Research/Teaching Assistantships. Part-time employment at the equivalent rates of $20,000 to
$26,000 per 12 months, plus waiver of all tuition and fees. Appointments are based primarily on
scholarship and ability to contribute to on-going programs of the school. Prospective students
who consider themselves highly qualified for an award should include with their application
for admission a letter describing in as much detail as possible their qualifications and needs.
Write to the Director of the School of Information and Computer Science, Georgia Institute of
Technology, Atlanta, Georgia 30332.

Daniel and Florence Guggenhein Foundation. Fellowships for U.S. and Canadian residents
interested in jet propulsion, energy conversion, fluid mechanics and flight structures. For
information on flight structures, write to the Department of Civil Engineering and Engineering
Mechanics, Columbia University. For information on applied physics and materials science;
dynamics and control systems; energy conversion, propulsion, and combustion; energy and
environmental policy; flight science and technology; and fluid mechanics, and computational
and experimental fluid mechanics, write to the Director of Graduate Studies, Department of
Mechanical and Aerospace Engineering, Princeton University.

Fannie and John Herts Foundation Fellowships. The stipend is $10,000 ($11,000 if married),
plus $6,000 cost-of-education allowance per nine month year. Offered on the basis of academic
(A- undergraduate GPA) and research performance, recommendations, and personal technical
interview, for the support of personal and institutional expenses during graduate education
directed toward the Ph.D. degree in applied physical sciences. Tenable at the Department of
Applied Science of the Davis Campus, and at all campuses of the University of California;
California Institute of Technology; Carnegie-Mellan University; The University of Chicago;
Cornell University; Courant Institute of Mathematical Sciences, New York University; Georgia
Institute of Technology; Harvard University; Massachusetts Institute of Technology; Polytechnic
Institute of New York; Princeton University; Rensselaer Polytechnic Institute; Rice University;
University of Rochester; Stanford University; University of Texas at Austin; Texas A&M
University; Vanderbilt University; and University of Wisconsin, Madison. Application deadline is
November 1. Applicants should write to the Office of the Graduate Dean at these institutions,
or write directly to the Hertz Foundation, P.O. Box 2230, Livermore, California 94550-0130.

Hughes Aircraft Company Fellowships. Masters, Engineer Degree, and Doctoral Fellowships are
awarded on a competitive basis to qualified individuals in the Engineering Sciences for study
at selected universities in the fields of electrical, mechanical, aerospace or systems engineering,
computer science, mathematics, or physics. Most are awarded on a work-study basis. U.S.
citizenship is required. Write to the Hughes Aircraft Company, Corporate Fellowship Office,
P.O. Box 1042, El Segundo, California 90245.

Hubert H. Humphrey Doctoral Fellowships. Awards are made by the U.S. Arms Control and
Disarmament Agency (ACDA) to stimulate interest in the study of arms control in universities
around the country by supporting unclassified doctoral dissertation research in the field.
Applicants must be U.S. citizens or nationals and must have completed all requirements for the
degree, except the dissertation, at a U.S. college or university. (Law students are also eligible.)
The stipend will be $5,000 for a 12-month period, plus applicable tuition and fees of up to $3,400
for one year. Application deadline is March 31, for the 12-month award period beginning in
either September or the following January. For application materials write: Hubert H. Humphrey

Johns Hopkins University. Tuition scholarships and stipends are available to students seeking the
Sc.M. or Ph.D. in biostatistics. Applicants should have one year of biological, physical, or social
science in addition to preparation in mathematics. Address inquiries to Chairman, Department of Biostatistics, School of Hygiene and Public Health, 615 North Wolfe Street, Baltimore, Maryland 21205.

Kosciuszko Foundation. Scholarships and grants for Americans of Polish background. Application deadline is January 15. For information write to Scholarship and Exchange Programs, the Kosciuszko Foundation, 15 East 65th Street, New York, New York 10021.

Laboratory Graduate Participation. Opportunity for graduate students working toward master’s and doctoral degrees in the physical, life, social, and environmental sciences, engineering, and mathematics in DOE Research Laboratories, Energy Centers and Mining Centers. The annual stipend payment, applicable for all levels, is $8,400, with allowances: $1,000 for spouse and dependent child, $1,500 for spouse and two or more dependent children. U.S. citizenship is required. About eighteen appointments are awarded annually. Inquiries may be addressed to University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, Tennessee 37831.

National Science Foundation. Graduate Fellowships. Three-year awards available to citizens or nationals of the U.S. for full-time study leading to master’s or doctoral degrees in science (including mathematics). Awards made only to students who have completed less than one year of graduate study. Stipends of $11,000 for a 12-month tenure ($925 per month), regardless of level of study. No dependency allowances. Education allowance paid to fellowship institution. Application deadline November. Further information and application materials may be obtained from the Fellowship Office, National Research Council, 2101 Constitution Avenue, Washington, D.C. 20418.

National Science Foundation. Minority Graduate Fellowships. Awarded for study or work leading to the master’s or doctoral degrees, these fellowships are granted for periods of three years. They are open to U.S. citizens or nationals who are members of an ethnic minority group underrepresented in the advanced levels of the U.S. science personnel pool, i.e., American Indian, Alaskan Native (Eskimo or Aleut), Black, Hispanic, or native Pacific Islander. The stipend is $11,000 for 12-month tenures ($925 per month), regardless of level of study. No dependency allowances. Education allowance paid to fellowship institution. The deadline for applications is November. Application materials may be obtained from the Fellowship Office, National Research Council, 2101 Constitution Avenue, Washington, D.C. 20418.

Sigma Delta Epsilon, Graduate Women in Science. Awards are available on a competitive basis to those who hold a degree from a recognized institution of higher learning in one of the mathematical, physical or biological sciences and are currently involved in research or have an approved research proposal. Applications will be made irrespective of race, nationality, creed or age. Applications from women are especially encouraged. Two types of awards are available: Eloise Gerry Fellowship ($2,000 to $8,000, not to be used for a degree program, deadline for applications and credentials December 1), and Grants-in-Aid ($750, deadline February 1). Announcement of awards will be made by the following July 1. Further information and application forms may be obtained from Sigma Delta Epsilon, Graduate Women in Science, Inc., 9650 Rockville Pike, Bethesda, Maryland 20814. An individual may apply for only one of the two awards. Please indicate to which type of award your inquiry is addressed.

Smithsonian Institution. Predoctoral Fellowships. Appointments to students who have substantially completed formal course requirements for the doctorate or its equivalent, to conduct research for the dissertation. Offered annually in the history of mathematics, for a period from six months to one year. Approximately $11,000 stipend, plus research expense allowance and relocation allowance. The proposed project must be approved in advance by appointee’s advisor, conducted within Smithsonian facilities, and must be related to research and interests of the Institution. Deadline for application is January 15th yearly for the following academic year. Further information and application forms may be obtained from the Office of Fellowships and Grants, Smithsonian Institution, Room 3300, L’Enfant Plaza, Washington, D.C. 20560.

University of Massachusetts. Sabbatical Lectureships. Available in the Department of Mathematics and Statistics, these lectureships are open to faculty members of colleges or universities without a Ph.D. program in mathematics and/or statistics, who wish to spend their sabbatical leaves at the University of Massachusetts. Applicants should generally have a master’s degree, will be required to teach one course per semester, and will be expected to enroll in one or two courses and a seminar. Stipends are available; tuition will be waived. For further information, write to Professor M. K. Bennett, Director, Sabbatical Lectureship Program, Department of Mathematics and Statistics, University of Massachusetts, Amherst, Massachusetts 01003.
Postdoctoral Support

Air Force Office of Scientific Research. Research Contracts and Grants. Mathematicians and scientists in the computer or mathematical sciences are encouraged to submit proposals through their organizations for research support. Recipients of support are not required to be U.S. citizens. Research areas of interest include physical mathematics, probability, statistics, numerical analysis, system science, control theory, and computer science. Research proposals should be forwarded to the Director of Mathematical and Information Sciences, Air Force Office of Scientific Research, Building 410, Bolling AFB, Washington, D.C. 20332.

American Association for the Advancement of Science. Science, Engineering and Diplomacy Fellowships. One-year fellowships are available for work as staff officers in the State Department and in the Agency for International Development. The Fellow must demonstrate exceptional competence in some area of science or engineering, be flexible, and have a strong interest or some experience in applying knowledge toward the solution of problems in the area of foreign affairs. A secret security clearance must be obtained after selection. Salaries are at the GS11 or GS12 level depending upon education and experience. Deadline for receipt of applications is February 1. For application materials and more specific information on assignment possibilities write to Science, Engineering and Diplomacy Fellows Program, AAAS, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036.

American Mathematical Society Research Fellowship. Postdoctoral Fellowships. Open to citizens or permanent residents of a country in North America. Intended to support Research Fellows (of any age) in early mid-career for one year, and awarded on the basis of mathematical merit. Recipient's vita must include some postdoctoral work experience, i.e. non-fellowship years. Stipends for 1984-1985 are to be $30,000 for nine months of full-time research or its equivalent, plus $1,000 for expenses. Fellowships may be held at any institution the Fellow selects or at more than one in succession. There is flexibility in the choice of time interval(s) and manner in which the Fellow may draw funds. For instance, given the opportunity, a Fellow may elect to hold a half-time academic appointment with a teaching responsibility not exceeding one course per term while holding the fellowship at one-half stipend over a two-year period. The Fellow should consult the Secretary of the Society to learn whether the proposed arrangement is acceptable to the Society. Deadline for receipt of applications is December 3, 1984. Awards will be announced late in January 1985. For further information and application forms write to William J. LeVeque, Executive Director, American Mathematical Society, P.O. Box 6248, Providence, Rhode Island 09420.

American Philosophical Society. Postdoctoral research grants averaging $1,800 for candidates with Ph.D. or equivalent to aid specific research projects. Grants contribute toward travel expenses, food and lodging, photoduplication, and some other research costs. Tenable abroad and in U.S. The Committee on Research meets by end of February, April, June, October, and December. Respective deadlines for application and all supporting material are December 1, February 1, April 1, August 1, and October 1. For information write to Dr. Randolph S. Klein, American Philosophical Society, 104 South Fifth Street, Philadelphia, Pennsylvania 19106.

American Society for Engineering Education. NASA-ASEE Summer Faculty Fellowships. Programs in science and engineering research in collaboration with the National Aeronautics and Space Administration research centers; for U.S. citizens who are faculty or research members of institutions of higher education. Stipends will be $650/week for ten weeks, plus travel allowance. Application deadline is February 1. For published announcement write to NASA-ASEE Summer Faculty Fellowships, American Society for Engineering Education, Suite 200, Eleven Dupont Circle, N.W., Washington, D.C. 20036.

American Society for Engineering Education. Navy- and DOE-ASEE Summer Faculty Research Programs. Programs in science and engineering research at the laboratories and R&D centers of the Navy and Department of Energy; for U.S. citizens who are faculty or research members of institutions of higher education. Stipends will be $650/week, plus travel allowance. Application deadline is February 1. For a program announcement write to American Society for Engineering Education, Suite 200, Eleven Dupont Circle, N.W., Washington, D.C. 20036.

Argonne National Laboratory. Predoctoral, postdoctoral, and visiting scientist appointments in mathematics and computer science with an emphasis on applied analysis, numerical mathematics, automated program transformations, and automated theorem proving. Summer appointments
Australian Institute of Nuclear Science and Engineering. **Research Fellowships.** Fellowships are intended for scientists and engineers who have qualifications equivalent to the Ph.D. Stipends are in the range of $20,655 to $24,785 per year (Australian currency), and the Institute may contribute to travel costs to and from Australia. A research project within the field of nuclear science and engineering of interest to the Institute must be proposed in the nomination after agreement between the candidate and the nominating organization. Further information can be obtained from Executive Office, Australian Institute of Nuclear Science and Engineering, Private Mail Bag, Post Office, Sutherland N.S.W. 2232, Australia. Candidates must be nominated by an Australian university, the Australian Atomic Energy Commission or the Commonwealth Scientific and Industrial Research Organization. Closing dates are February 28 and August 31 each year, and all nominations received after one closing date will be considered together after the next closing date.

Brown University. **Jacob David Tamarkin Assistant Professorships.** Offered by Brown University to promising mathematicians. Appointments are for three years, with a competitive salary. Possibilities exist for additional summer support. Teaching load is six hours per week and consists of courses of more than routine interest. An applicant (regardless of age) should have completed the doctorate by July 1, 1985 and no earlier than 1983. In addition to a letter expressing interest in a Tamarkin Assistant Professorship, the applicant should have three letters of recommendation sent to the Department of Mathematics by January 1, 1985. For more information, applicants should write to the Executive Officer, Department of Mathematics, Brown University, Providence, Rhode Island 02912. Women and members of minority groups are encouraged to apply. Equal Opportunity/Affirmative Action Employer.

The Bunting Institute of Radcliffe College. **Science Scholar Fellowships.** The Bunting Institute provides fellowships to postdoctoral scientists to work on projects that will make a contribution to their fields and advance their careers. Open to scientists in the fields of physical, mathematical, psychological and biological sciences and engineering. Office and laboratory space; stipend ranges from $18,000—$20,000 plus research expenses; two year appointment for recipients affiliated with a laboratory; one year for recipients who do not require a laboratory affiliation; access to Harvard/Radcliffe libraries and facilities. Deadline for applications is October 15, 1984. Write or call for application and information to: Science Scholar Fellowship Program, The Bunting Institute of Radcliffe College, 10 Garden Street, Cambridge, Massachusetts 02138. (Telephone 617-495-8212)

California Institute of Technology. **Harry Bateman Research Instructorships.** Offered by the Department of Mathematics at the California Institute of Technology. Normally open to men and women (of any age) who have just received their doctorate in mathematics. Appointments are for one year and are renewable for one additional year. The annual salary will be $26,000. Duties include teaching one course for the full academic year. Application deadline is January 15. Inquiries or requests for application forms should be addressed to Professor W.A.J. Luxemburg, Department of Mathematics 253-37, California Institute of Technology, Pasadena, California 91125. Affirmative Action Employer.

Congressional Science Fellowship. Sponsored jointly by the AMS-MAA-SIAM in cooperation with the AAAS, the fellowship offers a stipend of $26,000 for one year spent working on the staff of a member, committee or Support Agency of Congress. The applicant must hold a doctorate in one of the mathematical sciences, have a broad scientific and technical background and a strong interest in the uses to which mathematics and other sciences may be put in the solution of societal problems. Further information on the general program can be obtained from AAAS Congressional Science Fellow Program, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036. Applications with three letters of recommendation should be received by January 1, 1985 by the Conference Board of the Mathematical Sciences, 1529 Eighteenth Street, N.W., Washington, D.C. 20036.

Cornell University. Possible **H. C. Wang Assistant Professorship.** During the first year the holder of a Wang Assistant Professorship will have a teaching load of two courses in the first semester and one in the second; thereafter, it will be two courses per semester. Salary $27,500. The Assistant Professorship is nonrenewable after a three-year term. Applications and letters
of reference should be addressed to Chairman, Department of Mathematics, Cornell University, Ithaca, New York 14853.

**Courant Institute. Instructorships in Mathematics.** Open to mathematicians (of any age) who are recent recipients of doctoral degrees and who show strong promise in research. The teaching duty will consist of one course each term. Appointments are for two years. The academic salary for nine months will be at least $25,500. In addition, the Courant Institute may be able to offer support for research in residence during two summer months. (When longer term faculty positions are available, applicants for Instructorships will also be considered for them.) Inquiries and requests for application forms should be addressed to the Committee on Instructorships and Visiting Memberships, Courant Institute of Mathematical Sciences, New York University, 251 Mercer Street, New York, New York 10012. Applications should be filed no later than January 1, 1985. N.Y.U. is an Equal Opportunity Affirmative Action Employer.

**Courant Institute. Postdoctoral Visiting Memberships.** The Courant Institute of Mathematical Sciences of New York University offers postdoctoral Visiting Memberships to mathematicians, scientists and engineers who are interested in its program of training and research in a broad range of pure and applied mathematics. Applications for the academic year 1984-1985 must be submitted before January 1, 1985. Inquiries and requests for application forms should be addressed to the Committee on Instructorships and Visiting Memberships, Courant Institute of Mathematical Sciences, New York University, 251 Mercer Street, New York, New York 10012. N.Y.U. is an Equal Opportunity Affirmative Action Employer.

**Dartmouth College. John Wesley Young Research Instructorships.** Two instructorships are normally awarded by Dartmouth College each year. Teaching duties average less than six hours per week and are of a varied and nonroutine nature. The academic-year salary of $20,500 is supplemented by a two-month resident research stipend of $2,500. Appointments are for two years and are not renewable. Applicants should write to the Department of Mathematics and Computer Science, Dartmouth College, Hanover, New Hampshire 03755 (Attention: Recruiting). Applicants are advised to apply promptly, and no later than January 15, 1985.

**Department of State, Agency for International Development.** Research grants for research projects and analytical studies on development policy issues emphasizing food production, nutrition, health, education, population, socio-economic and related issues. Research groups are encouraged to propose research to the Agency within the above areas. For further information, write to Edwin Hullander, Policy Development and Program Review, Bureau for Program and Policy Coordination, Agency for International Development, Washington, D.C. 20523.

**John Simon Guggenheim Memorial Foundation Fellowships.** Fellows are usually between thirty and forty-five years of age, but the Committee of Selection also is empowered to nominate persons older than forty-five and younger than thirty. Fellowships are on an advanced professional level. U.S. or Canadian citizenship or permanent residence is required. Fellowships are also offered to citizens or permanent residents of all countries and territories of the Western Hemisphere and the Philippines. Application deadline: October 1. Approximately 300 awards are made, averaging approximately $19,500 in 1984. For more information write to Gordon N. Ray, President, John Simon Guggenheim Memorial Foundation, 90 Park Avenue, New York, New York 10016.

**Harvard University. Benjamin Peirce Lectureships.** Rank of Assistant Professor. The appointments are for three years with a starting salary of approximately $24,600 (for the nine-month academic year) which can be augmented by teaching in the summer school or by work on a research contract if funds are available. The teaching commitment is six hours per week of lectures including a half course on any topic of the lecturer's choice. Application forms may be obtained by writing to: Benjamin Peirce Lectureships, Department of Mathematics, Harvard University, One Oxford Street, Cambridge, Massachusetts 02138. Applications must be filed by January 1, 1985. Harvard is an Equal Opportunity/Affirmative Action Employer.

**IBM Thomas J. Watson Research Center. Mathematical Sciences Department Postdoctoral and Junior Faculty Research Fellowships.** These fellowships provide an opportunity for scientists of outstanding ability to pursue their own research interests in pure or applied mathematics while interacting closely with Department members in an atmosphere in which basic research is combined with exposure to technical problems arising in a mathematically oriented industry. Candidates (of any age) must have no more than five years of postdoctoral professional experience when the fellowship commences. The duration of the fellowship is one or two years, and the
stipend will be in the range of $37,500 to $43,500 per year, depending on qualifications. To apply, submit the following by January 15, 1985: résumé; thesis summary; thesis or reprints of publications based on thesis, if available; bibliography with reprints of principal papers; period you are requesting (one or two years); research proposal for the period of your fellowship; and three or more letters of reference, including one from your thesis adviser. The letters of reference may arrive separately, but must be received by the above date. Direct all material to Committee on Postdoctoral Fellowships, Mathematical Sciences Department, IBM Thomas J. Watson Research Center, Post Office Box 218, Yorktown Heights, New York 10598. Applicants will be notified of the Committee's decisions by March 1, 1985. The Research Center is located in Westchester County about thirty miles north of New York City.

Indiana University, Bloomington. Václav Hlavatý Research Assistant Professorships. The Mathematics Department at Indiana University expects to receive funding for at least one position at this level, offered to mathematicians with doctorates who show definite promise in research. The appointment is for three years with an academic-year salary of at least $24,000. The teaching duties during the first academic year will involve three hours per week and during the next two academic years will involve six hours per week. The salary may be supplemented by either teaching or research contracts during the summer months. There will also be an amount of $500 available for professional expenses, such as travel to meetings, supplies, publication costs, etc. Inquiries or requests for application forms should be addressed to William P. Ziemer, Chairman, Department of Mathematics, Swain Hall East, Indiana University, Bloomington, Indiana 47405. Preference will be given to applications received before January 1, 1984. Affirmative Action Employer.

Institute for Advanced Study Memberships. The School of Mathematics will grant a limited number of memberships, some with financial support, for research in mathematics at the Institute during the academic year 1985-1986. Candidates must have given evidence of ability in research comparable at least with that expected for the Ph.D. degree. Application blanks may be obtained from the Administrative Officer of the School of Mathematics, Institute for Advanced Study, Princeton, New Jersey 08540, and should be returned (whether or not funds are expected from some other source) by December 31, 1984. An Equal Opportunity/Affirmative Action Employer.

Institute for Computer Applications in Science and Engineering (ICASE). A limited number of visiting appointments are available for both junior- and senior-level researchers at the Institute for Computer Applications in Science and Engineering (ICASE) which is operated by Universities Space Research Association. ICASE serves as a center for interaction between Langley Research Center staff and the academic community in the areas of applied and numerical mathematics, applied computer science, and development of mathematical models in a variety of application areas. Applications for partial support while on sabbatical leave are encouraged, as are applications from Ph.D.'s for one- or two-year renewable appointments. Inquiries should be addressed to the Director, ICASE, Mailstop 132C, NASA Langley Research Center, Hampton, Virginia 23665.

Institute for Mathematics and its Applications. The institute will sponsor a program on Stochastic Differential Equations and Their Applications. The Organizing Committee for this program consists of Daniel Stroock (Chairman), Wendell Fleming, Theodore Harris, Pierre-Louis Lions, Steven Orey, and George Papanicolaou. Topics to be covered include random media, large deviation theory, Malliavin calculus, disordered systems and percolation, infinite interacting systems, and hydrodynamic behavior. Applications will include electrical/computer engineering, control theory, and operations research. Postdoctoral memberships are available with a stipend of $30,000 (including a relocation allowance) for 12 months beginning August 16, 1985. Other support is available. Preference is given to supplementing sabbaticals, fellowships and other stipends. Applicants who have completed the doctorate by August 16, 1985, should submit the following materials by January 15, 1985: (1) A personal statement of scientific interest, research plans, and reasons for wishing to participate in the Institute program. (This is an essential part of the application.) (2) A curriculum vitae including a list of publications. (3) Three letters of recommendation. Persons applying for other support should submit the same information. Send all correspondence to Hans Weinberger, Director, Institute for Mathematics and its Applications, University of Minnesota, 514 Vincent Hall, 206 Church Street S.E., Minneapolis, Minnesota 55455.

Lawrence Livermore National Laboratory. Postdoctoral research appointments and graduate research assistantships. Areas of special interest include development of computer systems,
Los Alamos National Laboratory. Research opportunities in computer science, numerical science, applied mathematics, and physics. A limited number of postdoctoral appointments is available for one year, subject to renewal for a second year. Los Alamos National Laboratory is an equal opportunity employer. Write to Mail Stop P-203, Los Alamos National Laboratory, University of California, Los Alamos, New Mexico 87545.

Los Alamos National Laboratory. J. Robert Oppenheimer Research Fellowship. Candidates must be recipients of a doctorate in the physical sciences, natural sciences, mathematics or engineering, and must show clear and definite promise of becoming outstanding leaders in scientific research. One- to three-year appointment; salary: $41,820/year; application deadline: mid-December each year. For additional information write to Mail Stop P-203, Los Alamos National Laboratory, Los Alamos, New Mexico 87545. An Affirmative Action/Equal Opportunity Employer.

Massachusetts Institute of Technology. C.L.E. Moore Instructorships in Mathematics. Offered by the Department of Mathematics at the Massachusetts Institute of Technology. Open to mathematicians with doctorates who show definite promise in research. The base salary will be at least $24,800, and the teaching load is six hours per week in one semester and three hours per week in the other. Appointments are for one year and are renewable for one additional year. Applicants please send (a) a vita; (b) a description of the research in your thesis and other work you have done (1-3 pages); and (c) the research which you plan for next year. Application should be sent, by December 31 if possible, to the Department of Mathematics, Room 2-263, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139. M.I.T. is an Equal Opportunity Employer.

Mathematical Sciences Research Institute. The Institute will award about 25 yearlong research fellowships with starting date August 1985 for new and recent Ph.D.'s (of any age). Minimum stipends will be approximately $26,000, but higher awards are possible for candidates in computer science and mathematical economics. There will be special programs in Computational Complexity, Mathematical Economics, and in Geometric Function Theory (Spring only); half year fellowships are possible, especially in the Spring program. While a majority of appointments will be in these three program areas, a number of awards are expected in other areas, so applications from candidates in all fields are welcome. Write to Calvin C. Moore, Deputy Director, Mathematical Sciences Research Institute, 2223 Fulton Street, Room 603, Berkeley, California 94720. Files must be complete by January 1, 1985.

Mathematics Research Center. A limited number of visiting research appointments will be available at all levels from postdoctoral up, in areas of applied or applicable mathematics, interpreted in a broad sense, including solid mechanics, fluid dynamics, applied analysis (primarily nonlinear PDE and ODE), numerical analysis, numerical PDE and scientific computing, probability and statistics, and optimization and large scale systems. During 1985-1986 MRC expects to have a year of concentration on nonlinear PDE (theoretical and computational) motivated by physical applications. The postdoctoral appointments offer Ph.D.'s working in areas of applicable mathematics an opportunity to broaden their contact with applications. Qualifications include outstanding research ability and potential, as attested to by leading mathematicians in the candidate's field. The University of Wisconsin is an equal opportunity employment institution (Title IX/Title VI). For information write John A. Nohel, Director, Mathematics Research Center, University of Wisconsin, Madison, Wisconsin 53705.

Kenneth O. May Fellowship in the History of Mathematics. Recent Ph.D.'s and students in the last stages of their dissertations, working in the history of mathematics, may apply for this fellowship. The period of the award may be between four and twelve months, for a grant of $2,000 per month. Send curriculum vitae, names of two or more references, and brief description of proposed research before November 15, 1984, to Professor Craig Fraser, IHPST, Victoria College, 73 Queen's Park Crescent East, Toronto, Ontario M5S 1K7, Canada.

National Center for Atmospheric Research. Advanced Study Program. Postdoctoral Fellowships are offered for highly qualified atmospheric scientists, and scientists from related disciplines, who wish to continue basic research in the atmospheric sciences. Appointments are for a one-year period with a possible extension for an additional year. Stipends are $22,000 for recent recipients who have a Ph.D. in atmospheric science or a related area, $19,000 for recipients with a Ph.D. in related sciences, and $17,000 for recipients with a Ph.D. in the atmospheric sciences. Application must be received by December 1, 1984, to Professor Craig Fraser, IHPST, Victoria College, 73 Queen's Park Crescent East, Toronto, Ontario M5S 1K7, Canada.
of the Ph.D. The application deadline is January 28. Inquiries should be sent to Betty Wilson, Administrator, Advanced Study Program, NCAR, P.O. Box 3000, Boulder, Colorado 80307.

National Research Council. Postdoctoral Fellowships for Minorities. Administered by the National Research Council, these fellowships are sponsored by the Ford Foundation. Applicants must be U.S. citizens who are members of one of the designated minority groups (American Indians and Alaskan Natives–Eskimo or Aleut, Black Americans, Mexican Americans/Chicano, or Puerto Ricans), who are engaged in college or university teaching, and hold a doctoral degree. Tenure of the one-year fellowship provides postdoctoral research experience at an appropriate nonprofit institution of the Fellow’s choice. The deadline for the submission of applications is January 16, 1985. Further information and application materials may be obtained from the Fellowship Office, National Research Council, 2101 Constitution Avenue, N.W., Washington, D.C. 20418.

National Research Council. Research Associateship Programs. These programs provide scientists and engineers opportunities for postdoctoral research, free from administrative duties, in a variety of scientific disciplines and fields of specialization. The programs are conducted in cooperation with selected federal organizations with laboratories at approximately sixty-five geographic locations in the United States. Most programs are open to senior investigators as well as recent Ph.D.’s. Most are also open to foreign nationals as well as U.S. citizens. Applications for these competitive awards will be received by the National Research Council until January 15, 1985. Appointments will be made in the spring. In some programs additional deadlines are April 15 and August 15 with awards announced in July and November respectively. Stipends will vary according to the type of appointment, but will not be less than $26,350. Further information and application materials can be obtained from Associateship Programs (JH 608-D3), National Research Council, 2101 Constitution Avenue, N.W., Washington, D.C. 20418.

National Science Foundation. Computer Science Research. Grants support research concerned with such topics as theoretical foundations of computer science; software systems science, software engineering, intelligent systems, and computer systems design. Guidelines on eligibility and proposal preparation are available in “Grants for Scientific Research.” For this brochure and additional information write: Division of Computer Research, National Science Foundation, 1800 G Street, N.W., Washington, D.C. 20550.

National Science Foundation. Mathematical Sciences Postdoctoral Research Fellowships. (With Research Instructorship Option). The format of this fellowship program has been changed significantly to provide the recipient with increased flexibility in the manner in which he or she can perform as a Fellow. In particular, the stipend portion of the awards will consist of support for two nine-month academic-years and six summer months over three summers. The awardee will have two options for the academic years’ stipend: as full-time support for any eighteen academic year months in a three-year period (the Research Fellowship Option), or as a combination of full-time and half-time support over a period of three academic years, usually as one academic year full-time and two academic years half-time (the Research Instructorship Option). The stipend will be paid at the rate of $2,400 per full-time month or $1,200 per half-time month, for a total of $57,600 for the eighteen academic-year months and six summer months. Deadline for applications is November 15, 1984; awards will be announced in early February 1985. Applications will be accepted in core mathematics, applied mathematics, and statistics. For further details write to Alvin I. Thaler, Program Director for Special Projects, Mathematical Sciences Section, National Science Foundation, 1800 G Street, N.W., Washington, D.C. 20550.

Oak Ridge National Laboratory. Limited number of postdoctoral appointments. Applications are invited from university faculty members for participation in the Laboratory’s research, especially for the summer. Areas of interest are applied mathematics, numerical analysis, mathematical physics, probability, and statistics. Of special interest are well-qualified applicants with interest and competence in the utilization of parallel computers for solving large-scale scientific computational problems. For further information, call R. C. Ward at 615-574-3125 or write to Chairman, Wigener Fellowship Panel, Office of Employment and Professional Relations, Oak Ridge National Laboratory, Post Office Box X, Oak Ridge, Tennessee 37831.

Office of Naval Research. Supports research over a wide range of areas including applied mathematics, numerical analysis, operations research, statistics and probability, and computer science. Proposals for research contracts and requests for information on ONR Programs should
OTA Congressional Fellowships. The Office of Technology Assessment, an agency of the U.S. Congress, selects several Congressional Fellows each year for a fellowship period of one year. Candidates must have completed research and training at the doctoral level, or have equivalent experience as judged by the selection committee. The program is open to men and women in all disciplines of science and technology and related policy or research activities, and provides a challenging work experience through participation in policy analyses for the Congress involving the effects of technological applications. Application information can be obtained from: Congressional Fellowships, Office of Technology Assessment, Congress of the United States, Washington, D.C. 20510.

Rice University. Griffith Conrad Evans Instructorships. Postdoctoral appointments for two to three years for promising research mathematicians with research interests in common with the active research areas at Rice. Applications should be in by 15 January 1984. Rice University is an Equal Opportunity/Affirmative Action Employer. Inquiries and applications should be addressed to Chairman, Department of Mathematics, Rice University, Box 1892, Houston, Texas 77001.

Rutgers University. Hill Assistant Professorships. Offered for 1985-1986 by the Department of Mathematics at Rutgers, The State University of New Jersey, New Brunswick, to men and women of any age who will have received their Ph.D. by December 31, 1984, and who show definite promise in research in pure or applied mathematics. Applications from members of minority groups are welcome. Appointments are for three years. The starting salary is expected to be in excess of $23,000. Inquiries and applications should be addressed to Charles Sims, Chairman, Department of Mathematics, Rutgers University, New Brunswick, New Jersey 08903. Applications received after January 15, 1985 may not receive full consideration.

Sloan Foundation. Research Fellowships. Unrestricted grants made to selected university scientists in the physical sciences, mathematics, applied mathematics, economics, and in neuroscience. Candidates must be members of the regular faculty, though not necessarily in a tenured position, at a recognized college or university in the United States or Canada. Candidates do not apply but are nominated by their department chairmen or other scientists. For information write to the Sloan Research Fellowships, Alfred P. Sloan Foundation, 630 Fifth Avenue, New York, New York 10111.

Smithsonian Institution. Postdoctoral Fellowships. Appointments to individuals possessing the Ph.D. or equivalent degree, and limited to individuals requiring research training in association with a member of the Institution’s professional staff. Offered annually in the history of mathematics, for a period of from six months to one year. Approximately $18,000 stipend, plus research expense allowance and relocation allowance. Deadline for application is January 15th yearly for the following academic year. Further information and application forms may be obtained from the Office of Fellowships and Grants, Smithsonian Institution, Room 3300, L’Enfant Plaza, Washington, D.C. 20560.

U.S. Department of Energy (DOE). Special University-Laboratory Cooperation. Participants engage in laboratory-approved projects in a program designed to increase the interactions and flow of information between universities and DOE laboratories. Included is research in applied mathematics and computer science. Inquiries should be addressed to the Director at any of the following organizations: Associated Western Universities, 142 East 200 South (Suite 200), Salt Lake City, Utah 84111; Argonne Division of Education Programs, 9700 South Cass Avenue, Argonne, Illinois 60439; Brookhaven National Laboratory, Upton, New York 11973; Northwest College and University Association for Science (NORCUS), 100 Sprout Road, Richland, Washington 99352; Oak Ridge Associated Universities, Oak Ridge, Tennessee 37830.

U.S. Department of Health and Human Services, National Institutes of Health, supports postdoctoral training in specified areas of biomedical and behavioral research. Applicant must have earned an appropriate degree and arranged for appointment to an institution and acceptance by a sponsor who will supervise the training research experience. U.S. citizenship or lawful admittance to the U.S. for permanent residence is required. Announcements and application kits available from Office of Grants Inquiries, Division of Research Grants, National Institutes
of Health, Bethesda, Maryland 20205. An enclosed self-addressed gummed mailing label will expedite handling.

University of California, Irvine. **Visiting Irvine Assistant Professorship 1985-1986.** The position enables mathematicians (of any age) beginning their career who show definite promise in research to participate in an environment of vigorous mathematical research and instruction. Appointment is for one year; can be renewed for second year. Annual salary: $25,500. Teaching duties comparable to those of regular faculty. Appointees are expected to direct seminars in their specialty. Applications and three letters of recommendation must be received by February 15, and should be accompanied by a curriculum vitae and an account of works in print or preparation, and a brief description of research plans. All enquiries and applications should be sent to: The Irvine Visiting Assistant Professorships in Mathematics, Department of Mathematics, University of California, Irvine, California 92717. An Affirmative Action/Equal Opportunity Employer.

University of California, Los Angeles. **Earle Raymond Hedrick Assistant Professorships in Mathematics.** The Department of Mathematics, University of California, Los Angeles, will make three or four appointments for the year 1985-1986. These awards will be made to mathematicians with Ph.D.'s who show strong promise in research. The appointment will be for three years at an annual salary of $30,800, plus a research supplement of $3,400 for the first summer. The teaching load will be three hours per week for two quarters and six hours per week for one quarter. One course may be an advanced course in the candidate's research area. Requests for application forms should be sent to the Chairman, Department of Mathematics, University of California, 405 Hilgard Avenue, Los Angeles, California 90024. The deadline for applications is January 15, 1985. UCLA is an Equal Opportunity/Affirmative Action Employer.

University of California, San Diego. **S. E. Warschawski Assistant Professorship.** Special two-year position offered by the University of California, San Diego. The nine-month salary is $28,400. Candidates should possess a Ph.D. degree in mathematics or expect to receive one prior to September 1985. All areas will be considered with a preference in Number Theory. Selection will be based primarily on demonstrated research achievement. Teaching experience is desirable. To apply, have at least three letters of reference, vita and publications sent to "Faculty Search Committee", C-012, Department of Mathematics, University of California, San Diego, La Jolla, California 92093. We expect to have referees write to us directly. All applications received by December 1, 1984 will receive thorough consideration. All supporting documents must be received no later than January 1, 1985. University of California, San Diego is an Equal Opportunity/Affirmative Action Employer.

University of Chicago. **Leonard Eugene Dickson Instructorships in Mathematics.** Intended for men and women completing the doctorate in mathematics prior to autumn 1985. Appointment is for two years with an annual salary of at least $26,000, instruction averaging four hours a week. Application deadline is January 15, 1985. Further information may be obtained from the Dickson Secretary, Department of Mathematics, University of Chicago, 5734 University Avenue, Chicago, Illinois 60637.

University of Cincinnati. **Charles Phelps Taft Postdoctoral Fellowships.** These fellowships are intended to afford scholars who have demonstrated unusual ability for creative research the opportunity to enhance their education through additional study and research. Applicants must have been awarded the Ph.D. degree during the past five years or have completed all degree requirements by September 1 of the year in which the tenure will begin. Applications must include a research plan and the name of a University of Cincinnati faculty member, if known, with whom the applicant would like to study. Ten departments, including the Department of Mathematical Sciences, compete for three awards. Tenure is for one academic year and involves no teaching duties; however, teaching is allowed for additional compensation. Inquiries should be sent to the University Dean for Graduate Education and Research, Mail Location 627, University of Cincinnati, Cincinnati, Ohio 45221. The deadline for the complete application is February 1.

University of Michigan, Ann Arbor. **T. H. Hildebrandt Research Assistant Professorships.** Designed to provide mathematicians with favorable circumstances for the development of their research talents. Preference is given to persons of any age having their Ph.D. less than two years. Teaching load averages one and one-half courses per semester. The stipend for the academic year 1985-1986 will be determined later; there is a good possibility of additional income during the summer. Appointment is for three years. NSF postdoctoral fellowships may be held.
simultaneously with a reduced teaching load. Applicants should submit completed application form and request at least three letters of recommendation. Letters should contain comments on applicant's mathematical promise, teaching ability, and personality. First preference will be given to applications completed, and supported by three or more letters, prior to January 2. Appointments will be announced by the middle of February. Applications should be made to D. J. Lewis, Chairman, Department of Mathematics, University of Michigan, Ann Arbor, Michigan 48109-1003. Affirmative Action Employer.

University of Pittsburgh. Andrew Mellon Postdoctoral Fellowships. Intended to support the research and foster the professional development of scholars who give promise of achieving distinction in their fields. Applicants should submit a completed application form, a research proposal, three to ten pages long, a list of publications, and three letters of recommendation by January 15. The Fellows are expected to be in residence at the University of Pittsburgh and to engage in research during their period of appointment; they have no other formal responsibilities. Preference will be given to applicants who have completed all doctoral degree requirements by January 15. A basic stipend of $17,500 for eleven months, plus an allowance for traveling expenses (up to $200) and incidental costs (not to exceed $200), make up the award. Nine-month appointments are available for a stipend of $14,300. Applications may be obtained from the Director of Graduate Programs, Faculty of Arts and Sciences, University of Pittsburgh, Pittsburgh, Pennsylvania 15260.

University of Utah. Instructorship in Mathematics. Three or four 3-year instructorships are offered each year. Persons of any age receiving Ph.D. degrees in 1984 or 1985 are eligible. Applicants will be selected on the basis of ability and potential in teaching and research. Starting salary this year is $22,500 and cost of living increases are contingent on action by the State Legislature. Duties consist of teaching two courses throughout the academic year. Applications must include curriculum vitae, bibliography, abstract of thesis and three letters of recommendation. Please send applications to Instructorship Committee, Department of Mathematics, University of Utah, Salt Lake City, Utah 84112.

University of Wisconsin, Madison. Van Vleck Assistant Professorship in Mathematics. Applications are invited from outstanding mathematicians (of any age) who are recent recipients of a doctorate. People are sought who will interact well with members of the department, who care about teaching, and who can contribute to the research and instructional programs. The regular teaching load is two courses per semester, with at least one in the applicant's specialty every other year. There is a high probability of additional income through research or teaching during summers between consecutive years of appointment. The salary will be dependent on experience and will be at least $23,500 per academic year. All positions are for specified two- or three-year terms. Deadline for applications is December 31, 1984. Application forms may be obtained by writing J. Marshall Osborn, Chairman, Department of Mathematics, 223 Van Vleck Hall, University of Wisconsin, 480 Lincoln Drive, Madison, Wisconsin 53706. University of Wisconsin-Madison is an Equal Opportunity Employer.

Yale University. Josiah Willard Gibbs Instructorships. Offered to men and women with the doctorate who show definite promise in research in pure mathematics. Applications from women and members of minority groups are welcome. Appointments are for two years. The 1984-1985 salary is $25,000; an increase is expected for 1985-1986. The teaching load is kept light to allow ample time for research. If desired, part of the teaching duties may consist of a one-semester course at the graduate level in the general area of the instructor's research. Inquiries and applications should be addressed to the Gibbs Committee, Department of Mathematics, Yale University, Box 2155 Yale Station, New Haven, Connecticut 06520. Preference will be given to applications received before February 1985.
Travel and Study Abroad

The African-American Institute. Seeks to further African development and to strengthen understanding between the United States and Africa. For information about the several programs write the African-American Institute program representatives in twenty-one African countries, relevant African ministries or universities, or the Division of Education, African-American Institute, 833 United Nations Plaza, New York, New York 10017.

Alliance Française de New York. For U.S. Nationals, a limited number of scholarships for graduate study and research in France. Fields unrestricted. Scholarships are in the amount of $3,000 to $3,800. Applicants must have a working knowledge of French. For further information American students should write to Institute of International Education, Division of Study Abroad Programs, 809 United Nations Plaza, New York, New York 10017.

American-Scandinavian Foundation. Fellowships for study or research in Scandinavia (Denmark, Finland, Iceland, Norway, and Sweden). Applicants must be U.S. citizens or permanent residents and have completed their undergraduate education by the time the overseas project is to begin. Necessary language competence, financial need, and merit in pursuing the study program in Scandinavia are considered in making these awards. The deadline for completed applications is November 1. Write to the Exchange Division, The American-Scandinavian Foundation, 127 East 73rd Street, New York, New York 10021.

Centro de Investigacion del IPN. Solomon Lefschetz Research Instructorships. Offered to mathematicians with doctorates who show definite promise in research. Appointments are for one year, with possibility of renewal for a second year, with salary equivalent to that of an Assistant Professor at the Mathematics Department. An allowance for moving expenses is also made. A knowledge of Spanish is desirable, but not necessary. Deadline for applications is January 30. Inquiries or requests for applications should be addressed to: Lefschetz Instructorships, Mathematics Department, Centro de Investigacion del IPN, Apartado Postal 14-740, Mexico, D.F., Mexico, C.P. 07000. Phone 905-754-4466, Telex 017-72826 PPTME.

Winston Churchill Foundation. A scholarship program for graduate work in engineering, mathematics and science at Churchill College, Cambridge University. Also a fellowship program to enable American professors and teachers to spend a period of time in research at Churchill College. Application forms are available from representatives on campuses of colleges and universities participating in the program. For further information write to The Winston Churchill Foundation, P.O. Box 1240, Gracie Station, New York, New York 10028.

Lady Davis Fellowship Trust. Fellowships for study and/or research at graduate or postdoctoral levels at the Hebrew University of Jerusalem and the Technion-Israel Institute of Technology, Haifa. Lady Davis Fellows will be selected on the basis of demonstrated excellence in their studies, promise of distinction in their chosen fields of specialization and qualities of mind, intellect and character. The Fellowships are tenable for a period of one year. They may be renewed for a second year and in special circumstances extended for a third year. They are intended to defray travel and tuition fees and to meet reasonable living expenses. Deadline for completed applications is December 1, 1984. Application forms can be obtained from the Lady Davis Fellowship Trust, P.O. Box 1255, Jerusalem, Israel.

Lady Davis Visiting Professorships. Lady Davis Visiting Professorships, for periods from one trimester (or semester) to a full academic year, are intended for candidates with the rank of Full or Associate Professor at their own institution. Such Visiting Professors are appointed after consultation with the appropriate Faculties of the Hebrew University of Jerusalem or the Technion-Israel Institute of Technology, Haifa. The grant includes a professorial salary and cost of travel. Deadline for completed applications is December 1, 1984. Application forms can be obtained from the Lady Davis Fellowship Trust, P.O. Box 1255, Jerusalem, Israel.

Fulbright-Hays Program. Fulbright and Other Grants for Graduate Study Abroad. For graduate study or research in any field in which the project can be profitably undertaken abroad. Applicant must be a U.S. citizen, hold a B.A. degree or the equivalent, and have language proficiency sufficient to carry out the proposed study and to communicate with the host country. If an applicant is already enrolled in a U.S. university, he must apply directly to the Fulbright Program Adviser on his campus. Unenrolled students may apply to the Institute of International
Education. Further details may be obtained from the Study Abroad Programs Division, Institute of International Education, 809 United Nations Plaza, New York, New York 10017.

**Fulbright Program. Collaborative Research Grants.** United States Government grants available in all fields for teams of two or three graduate students or recent postdoctoral researchers for research abroad. Eligibility requirements include U.S. citizenship and a sufficient proficiency in both the written and spoken language of the host country to carry out the proposed research. Deadline for completed applications is January 16, 1985. Further details may be obtained from the Study Abroad Programs Division, Institute of International Education, 809 United Nations Plaza, New York, New York 10017.

**Fulbright Program. Postdoctoral Awards.** United States Government grants available annually in all fields for university lecturing and postdoctoral research abroad. Eligibility requirements include U.S. citizenship; for lecturing, college teaching experience; for research, a doctoral degree or recognized professional standing at the time of application. In certain cases a knowledge of the language of the host country is required. Write to Council for International Exchange of Scholars, Suite 300, Eleven Dupont Circle, Washington, D.C. 20036. (Telephone 202-833-4950)

**Minna-James-Heineman-Stiftung. Research Abroad.** Grants are given to scientists of all nationalities to carry out research in foreign countries, thereby serving scientific knowledge and international cooperation. Awards are made for a maximum period of not more than one year with a maximum amount of 1,500–2,000 DM per month. The applicant must be a graduate, and applicants teaching at universities are preferred. The deadline for applications is February 1 each year. For details of application requirements and further information write to Minna-James-Heineman-Stiftung, Am Hohen Ufer 6, D-3000 Hannover 1, Federal Republic of Germany.

**Alexander von Humboldt Foundation. Research Fellowships.** Provides postdoctoral scholars with the opportunity of carrying out a research project at a university or other research institute within the Federal Republic of Germany and Berlin (West). Scholars of all nationalities and disciplines may apply. Selection is based exclusively on academic merit. Applicants must have completed their academic studies, have evidence of a degree equivalent to the doctorate (Ph.D., C.Sc., etc.), and for research in the humanities, have adequate knowledge of German. Furthermore they must present evidence of employment in independent research work at the university level, and have scholarly publications to her/his credit. Period of fellowship: 6 to 12 months (extension possible up to 24 months). Applications may be obtained from and returned directly to the Alexander von Humboldt Foundation, Jean-Paul-Strasse 12, D-5300 Bonn 2, Federal Republic of Germany. Additional scholarships for a German language course are available.

**Indo-American Fellowship Program.** 12 grants to be awarded to U.S. citizens for advanced research in India, for six- to ten-month periods during the academic year. In addition to a basic grant there are travel, dependent and research allowances. Also up to nine shorter grants (two- to three-months) for research and/or professional activity. Applications are encouraged from non-Indian specialists and for projects which include collaboration with Indian colleagues. Deadline for applications June 15 each year. For details write the Council for International Exchange of Scholars, Attention: Indo-American Fellowships Program, Eleven Dupont Circle, Washington, D.C. 20036.

**International Research and Exchanges Board (IREX).** IREX administers academic exchange programs, open to advanced graduate students, postdoctoral scholars, and faculty members in all fields of study who are United States citizens, and who are affiliated with a North American college or university. Exchange agreements are in effect with Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland, Romania, Yugoslavia, and the USSR. Placements are made for one to ten months at universities or academy institutes. For more detailed information, write to the International Research and Exchanges Board, 655 Third Avenue, New York, New York 10017.

**Italian National Research Council Fellowships for Foreign Citizens.** The Italian National Research Council announces some fellowships (maximum period one year) for foreign mathematicians. The stipend is 1,200,000 Italian lire per month, plus travel expenses to and from the country of residence. Prospective applicants may write for details to: Alessandro Figa-Talamanca, C.N.R., via Santa Marta 13A, 50139 Firenze, Italy. In their letter they should include information.
concerning their curriculum, their research program, the names of the Italian mathematicians they would like to work with.

**Kosciuszko Foundation.** *Graduate and Postgraduate Exchange with Poland.* Open to U.S. citizens. Candidates must have at least a master's degree and a knowledge of the Polish language. Apply by January 15 for the following academic year. Write to Scholarship and Exchange Programs, Kosciuszko Foundation, 15 East 65th Street, New York, New York 10021.

**Marshall Scholarships.** Offered by the British Government to U.S. graduates; tenable at any university in the United Kingdom. Recipients of awards are required to take a degree at their British university. Fields unrestricted. Apply through British Consulates-General in the following regions (1) Northeast: Suite 4740 Prudential Tower, Prudential Center, Boston, Massachusetts 02199; (2) Midwest: 3100 Massachusetts Avenue, N.W., Washington, D.C. 20008; (3) South: Suite 912, 225 Peachtree Street, N.W., Atlanta, Georgia 30303; (4) Central: 33 North Dearborn Street, Chicago, Illinois 60602; (5) Pacific: 9th Floor, 120 Montgomery Street, San Francisco, California 94104.

**National Academy of Sciences.** *Exchange Programs with China.* Several programs of scholarly exchange are available for graduate students and postdoctoral scholars for long-term study (10 to 12 months) or research (3 to 12 months) in affiliation with Chinese universities and research institutes. Application is open to citizens of the United States regardless of national origin, sex, or religious affiliation. Grants include transportation to and from China, stipend, living and travel allowances while in China, and a limited research and education materials allowance. Dependent travel or support are not provided. Application should be made either to the Graduate Program, to the Research Program, or to the Visiting Scholar Exchange Program. Application deadline is October 6, 1984 for the following academic year. For further information, write to the National Academy of Sciences, Office of International Affairs, USSR/EE, 2101 Constitution Avenue, N.W., (H218), Washington, D.C. 20418.

**National Science Foundation.** Support for U.S. participation in seminars, cooperative research projects, and visiting scientist activities under bilateral programs with certain foreign countries. For information about these programs request NSF Guide to Programs from Forms and Publications, National Science Foundation, Washington, D.C. 20550, or write to Division of International Programs, National Science Foundation, Washington, D.C. 20550.

**National Science Foundation.** Travel awards for U.S. citizens who are either predoctoral students or individuals who have held a doctoral degree for seven years or less as of the starting date of the Institute, to attend North Atlantic Treaty Organization (NATO) Advanced Study Institutes in Europe. Applications are made to the appropriate NATO Institute Director who nominates eligible candidates. Information may be obtained by writing to the NATO Program, Directorate for Scientific and Engineering Personnel and Education, National Science Foundation, Washington, D.C. 20550.

**National Science Foundation.** *United States-India Exchange.* This program grants travel support to senior scientists of the United States for periods from two weeks to two months, for work in India with Indian colleagues on projects of mutual interest. Applications should be submitted before March 15 for visits commencing after November 15 of the same year and September 15 for visits after May 15 of the following year. For information and application forms write to: U.S.-India Exchange of Scientists, Division of International Programs, National Science Foundation, Washington, D.C. 20550.

**Natural Sciences and Engineering Research Council of Canada.** *Visiting Fellowships.* The Government of Canada offers Fellowships on behalf of the following Canadian
Government Departments and Agencies: Agriculture Canada; Department of Communications-Communications Research Centre; Department of National Defence; Energy, Mines and Resources Canada; Environment Canada–Atmospheric Environment Service, Canadian Forestry Service, Environmental Conservation Service–Inland Waters Directorate, Lands Directorate, Fisheries and Oceans Canada–Atlantic Fisheries, Pacific and Freshwater Fisheries, Ocean Science and Surveys; Health and Welfare Canada–Health Protection Branch, Food Directorate, Environmental Health Directorate, Drugs Directorate, Laboratory Centre for Disease Control; National Museums of Canada–Museum of Natural Sciences; National Research Council Canada; Atomic Energy of Canada Limited. The annual value of the fellowships is $26,760, subject to Canadian income tax. The initial appointment is for one year, with a possibility of renewal for a second year. The applicant should hold a recent doctoral degree, or a master’s degree plus appropriate research experience. The closing date for applications is January 15 each year. Write to the Scholarships Office, Natural Sciences and Engineering Research Council of Canada, 200 Kent Street, Ottawa, Ontario, Canada K1A 1H5.

North Atlantic Treaty Organization. The NATO Science Committee has a Programme of Grants for Collaborative Research which provides financial aid for research projects aimed at stimulating, encouraging and facilitating scientific research in collaboration between scientists working in different member countries of the Alliance, thus promoting the flow of ideas and of experimental and theoretical methods across frontiers. Projects are supported for a limited period usually not exceeding three years, covering mainly travel and living expenses abroad for principal investigators visiting partner laboratories or for staff members needing to acquire or provide expertise or special training in the partner laboratory(ies). Deadlines for applications are 31 March, 15 August and 30 November. Application forms and details of the awards together with information about the Science Committee’s other programmes can be obtained from: Scientific Affairs Division, NATO, 1110 Brussels, Belgium.

North Atlantic Treaty Organization. Postdoctoral Fellowships. Awarded for nine- to twelve-month periods, for scientific study or work at appropriate nonprofit institutions in NATO countries, other than the U.S., or countries that cooperate with NATO. This program is for citizens or nationals of the U.S. Fellows receive a stipend of $18,000 for twelve-month tenure, plus dependency and travel allowances. Application deadline is early November. For information and application material, write to NATO Program, Directorate for Science and Engineering Education, National Science Foundation, Washington, D.C. 20550.

Rotary Foundation. Graduate Scholarships and Undergraduate Scholarships. One academic year of study abroad for the 1986-1987 year is available to outstanding men and women who are interested in world affairs and who can fulfill a dual role of scholar and “ambassador of good will.” Graduate scholarships and undergraduate scholarships cover the cost of all academic fees, room and board, as well as travel expenses to and from the study country. Awards are made for study in any field and are tenable in more than 151 countries in which there are Rotary Clubs. An applicant for a graduate scholarship must have obtained a bachelor’s degree or equivalent prior to the beginning of the fellowship year. An applicant for an undergraduate scholarship must have completed two years of university level work but not have obtained a bachelor’s degree prior to the beginning of his scholarship year. Application must be made through the Rotary Club nearest to the applicant’s permanent residence not later than October 1, 1985. Applications for 1986-1987 awards will be available beginning March 1, 1985.

Royal Norwegian Council for Scientific and Industrial Research. Postdoctoral Fellowships. Fields: engineering and applied sciences. Studies can be carried out at the Universities of Oslo and Bergen, the Technical University of Norway, and at institutes for applied research in Oslo, Bergen, and Trondheim. English may be used at all institutes; German and French at some institutes. Deadline each year is December 1. Write to Royal Norwegian Council for Scientific and Industrial Research, Sognsvæien 72, P.O. Box 70, Tåsen, 0801 Oslo 8, Norway.

Weizmann Institute of Science. Feinberg Graduate School Postdoctoral Fellowships. The Fellowships provide a 12-month stipend (with possible renewal for a second year), a small relocation allowance and a one-way air ticket. Round-trip airfare is provided if the fellowship is extended for a second year. The annual stipend is adjusted periodically in accordance with living costs. Application forms and additional information may be obtained from the Feinberg Graduate School, The Weizmann Institute of Science, P.O. Box 26, Rehovot 76-100, Israel. The application should reach the above address not later than November 15, 1984 for fellowships starting in April 1985 and not later than May 15, 1985 for fellowships starting in October 1985.
Study in the U.S. for Foreign Nationals

Many of the programs in the Graduate Support and Postgraduate Support sections are also applicable to Foreign Nationals.

**Alliance Française de New York.** For French students, a limited number of scholarships for graduate study in the U.S.; fields unrestricted. Scholarships are in the amount of $2,000 to $3,000. Applicants must have a working knowledge of English. For further information, write to Commission Franco-Américaine d’Échanges Universitaires et Culturels, 9, rue Chardin, Paris, 75016, France.

**American-Scandinavian Foundation.** Scandinavian scholars are awarded graduate fellowships to study in the U.S. For information write to the appropriate society in Scandinavia cooperating with the American-Scandinavian Foundation (Danmark-Amerika Fondet, Nytorv 9, DK-1450 Copenhagen K, Denmark; Suomi-Amerikka Yhdistysten Liitto, Mekelininkatu 10 A 10, SF-001 00 Helsinki 10, Finland; Íslenzk-Amerika Félágid, P.O. Box 7051, Reykjavík, Iceland; Norge-Amerika Foreningen, Drammensveien 20 C, Oslo 2, Norway; Sverige-Amerika Stiftelsen, Box 5280, S-102 46 Stockholm, Sweden), or to the Exchange Division, The American-Scandinavian Foundation, 127 East 73rd Street, New York, New York 10021.

**Fulbright Program.** Grants under the Fulbright Act for study, research, teaching and lecturing in the United States are available to nationals of many countries. Information regarding these opportunities may be secured from the Cultural Affairs Officer of the United States Embassy or from the binational Educational Commission or Foundation if there is one in the inquirer’s own country. The number of grants for each academic year will depend on funds available.

**Institute of International Education.** Grants for study, training and research in the U.S. Open to nationals of most countries. I.I.E. develops and administers exchange programs for a number of organizations and corporations, and administers U.S. Government grants under the Fulbright Act under the educational exchange programs of the U.S. Information Service. Information regarding these opportunities may be secured from the Cultural Affairs Officer of the U.S. Embassy or from the Binational Commission or Foundation if there is one in the inquirer’s own country.

**International Research and Exchanges Board (IREX).** Provides opportunities for foreign scholars and students to receive training and to conduct research at academic institutions in the United States. The sending country nominates its own participants to the exchanges, while the receiving country places the nominees at appropriate institutions of higher learning, normally for periods of a semester or an academic year. Soviet and East European scholars interested in the various exchange programs administered by IREX should consult the agencies in their own countries which administer the exchanges. These are: Department of Personal Scientific Exchange, Division of International Scientific-Technical Cooperation, State Committee for Science and Technical Progress, Slavyanska 8, Sofia, Bulgaria; Foreign Department, Ministry of Education of the Czech Republic, Karmelitská, 7, Prague 1, Czechoslovakia, or International Department, Ministry of Education of the Slovak Republic, Suvorovova 16, Bratislava, Czechoslovakia; Ministry for Higher and Technical Education of the German Democratic Republic, Marx-Engels Platz 2, 102 Berlin, German Democratic Republic; International Cultural Institute, V. Dorotyta utca 8, Budapest, Hungary; International Relations Department, Ministry of Science, Higher Education and Technology, ul. Miodowa 6/8, Warsaw, Poland; National Council for Science & Technology, Str. Roma 32-24, Bucharest, Romania; Federal Administration for International Scientific, Cultural, Educational, and Technical Cooperation, Kosancicev Venac 29, 11000 Belgrade, Yugoslavia; Department of Foreign Relations, Ministry of Higher and Specialized Secondary Education of the USSR, Lyusinovskaya 51, Moscow, USSR, or Department of Foreign Relations, Academy of Sciences of the USSR, Leninskiy prospekt 14, Moscow 117901, USSR.

**Kennedy Scholarships.** For citizens of the United Kingdom, these grants are for graduate study at Harvard University or the Massachusetts Institute of Technology. Application deadline is October 29. Write to Secretary, Kennedy Memorial Trust, 36 Gordon Square, London WC1H OPF, England.

**Kosciuszko Foundation.** One-year grants to doctoral and postdoctoral students. Applicants must be Polish citizens and have excellent command of English. Apply by January 15 for the following academic year. Write to Scholarship and Exchange Programs, the Kosciuszko Foundation, 15 East 65th Street, New York, New York 10021.
Sources of Fellowship Information

Some of the publications listed below are available at school, or college and university libraries, or in the reference room of a good public library.


Basic Facts on Foreign Study. A fact sheet on what to expect on a study-abroad program and where to find pertinent information; 1982, 6 pp.; single copies free, $10 per 100. Communications Division, Institute of International Education, 809 United Nations Plaza, New York, New York 10017. New edition planned for Spring 1985; single copies free, $15 per 100.

Chronicle Student Aid Annual, 1984. Catalog No. 502A. $15.90 plus $1.59 postage and handling. Revised annually. Chronicle Guidance Publications, Inc., Moravia, New York 13118. Provides information on about 1,350 financial aid programs available to undergraduate, graduate, and postgraduate students, including programs sponsored by private organizations and foundations, state and federal government sources, and national and international labor unions, both AFL-CIO affiliated and independent. A Subject Index gives easy access to programs for which a student is eligible.


Directory of Special Opportunities for Women. Listings of national, state, county, city and private organizations, associations, programs and agencies where women can find educational and career opportunities (290 pages). Garrett Park Press, Garrett Park, Maryland 20896. $18 prepaid.


Financial Aid for Minorities in Science. Financial assistance, scholarship and fellowship programs, resources for further information, 1981, Garrett Park Press, Garrett Park, Maryland 20896. $3.


Fulbright and Other Grants for Graduate Study Abroad. List of grants for graduate study and research abroad, administered by the I.I.E. for U.S. citizens. Request copy of brochure from

**Fulbright-Hays Program.** Information on grants for teaching in elementary and secondary schools, and colleges, may be obtained from the Teacher Exchange Branch, E/ASX, United States Information Agency, 301 Fourth Street, S.W., Washington, D.C. 20260.


**Introduction to Education in the People’s Republic of China and U.S.-China Educational Exchanges, 1982.** Contains an account of China’s educational system and information about educational exchange programs, for students, researchers and teachers. To obtain a copy for $1 postage and handling charges, or a list of additional Clearinghouse publications on U.S.-China educational exchanges, write to the U.S.-China Education Clearinghouse, 1860 Nineteenth Street, N.W., Washington, D.C. 20009.

**International Research and Exchanges Board (IREX).** Programs administered by IREX include exchanges for a semester or an academic year with the USSR and Eastern Europe, grants to promote new exchanges, and collaborative projects in the social sciences and humanities, preparatory fellowships and language programs. The IREX programs provide access at the predoctoral and postdoctoral levels to East European and Soviet universities and East European academies of sciences. For a program announcement describing the full range of IREX programs, write to the International Research and Exchanges Board, 655 Third Avenue, New York, New York 10017.


**National Endowment for the Humanities.** The Endowment operates through two fellowship programs and a summer stipend program. Information about these programs which may be of particular interest may be obtained from Division of Fellowships, National Endowment for the Humanities, 1100 Pennsylvania Avenue, N.W., Washington, D.C. 20506.

**Private Sector Funding Available to Foreign Students and Scholars in the United States.** Prepared by Ellen Wise Sivon, 1984. Lists private organizations offering awards to individual students and scholars for study primarily in the United States. Grant and fellowships indexed by
field of study and academic level. Available from the National Association for Foreign Student Affairs, 1860 19th Street, N.W., Washington, D.C. 20009.

**Rhodes Scholarships.** For U.S. citizens; tenable at Oxford University. Selection is made on four criteria: scholarship, character, leadership, and physical vigor. Information is available through the applicant’s college or university, or from the Rhodes Scholarship Office, Pomona College, Claremont, California 91711.

**Scholarships, Fellowships and Loans News Service and Counselors Information Services.** The Staff, Bellman Publishing Company, P.O. Box 164, Arlington, Massachusetts 02174-0164, published quarterly, $30 per year. Up-to-date information regarding student financial aid. Annotated bibliography of books and professional journals.

**Selected List of Fellowship Opportunities and Aids to Advanced Education for United States Citizens and Foreign Nationals.** Publications, National Science Foundation, 1800 G Street, N.W., Washington, D.C. 20550. Contains a list of fellowships available on the undergraduate, graduate, and postdoctoral levels plus a bibliography giving other sources of information on fellowships, scholarships, and loans.

**Social Science Research Council.** *International Doctoral Research Fellowship Program.* The program provides support to advanced doctoral candidates at U.S. universities for dissertation research in Africa; the Near and Middle East; East, South and Southeast Asia; Western Europe; Latin America, and the Caribbean. Full information on this program may be obtained by writing to the Social Science Research Council, Fellowships and Grants, 605 Third Avenue, New York, New York 10158.

**Study Abroad, 1983–1986.** Provides information on several hundred thousand study grants in over 100 countries for the years 1983–1986. Write to UNESCO: in the United States, UNIPUB, P.O. Box 1222, Ann Arbor, Michigan 48106; in Europe, Place de Fontenoy, Paris 7e, France. (1,104 pp., $20.50)

**U.S. Information Agency (USIA).** For information on USIA’s international educational and cultural exchange programs, including the Fulbright Program, write the Office of Public Liaison, U.S. Information Agency, 301 Fourth Street, S.W., Washington, D.C. 20547.
Essays in the History of Mathematics
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The papers in this volume represent the talks given at the special session on the History of Mathematics held at the Annual Meeting of the American Mathematical Society, San Francisco, January, 1981. The authors present papers on areas of mathematics through the eyes of those who helped shape, develop and contribute to them.

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<th>Dues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordinary member</td>
<td>$50</td>
</tr>
<tr>
<td>Joint family member (full rate)</td>
<td>$66</td>
</tr>
<tr>
<td>Joint family member (reduced rate)</td>
<td>$46</td>
</tr>
<tr>
<td>Contributing member (minimum $99)</td>
<td>$50</td>
</tr>
<tr>
<td>Student member (please verify)</td>
<td>$17</td>
</tr>
<tr>
<td>Unemployed member (please verify)</td>
<td>$17</td>
</tr>
<tr>
<td>Reciprocity member (please verify)</td>
<td>$33</td>
</tr>
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Masamichi Takesaki

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Tsit-Yuen Lam

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