Nonlinear analysis, as a discipline, has lately reached maturity and this development now justifies the publication of a specialized journal. Papers devoted to theory as well as applications are welcome, providing they bring a significant contribution to nonlinear analysis. The highest scientific standards will be sought so that the most important results reach a broad international audience in the shortest possible time.

Editor-in-chief: I. Ekeland (Paris-Dauphine)
Centre de Recherches
de Mathématiques de la Décision
Université de Paris 9 Dauphine
75775 Paris Cedex 16 - France

Contents - Issue No 1, vol. 1:

• P.H. Rabinowitz: "A rapid convergence method for a singular perturbation problem"
• I. Ekeland: "Une théorie de Morse pour les systèmes hamiltoniens convexes"

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Volume 30, Number 8, December 1983

Special Issue
Assistants and Fellowships in the Mathematical Sciences 1984-1985

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Subscribers’ changes of address should be reported well in advance to avoid disruption of service: address labels are prepared four to six weeks in advance of the date of mailing. Requests for a change of address should always include the member or subscriber code and preferably a copy of the entire mailing label. Members are reminded that U. S. Postal Service change-of-address forms are not adequate for this purpose, since they make no provision for several important items of information which are essential for the AMS records. Suitable forms are published from time to time in the Notices (e.g. June 1980, page 378). Send change of address notices to the Society at Post Office Box 6248, Providence, RI 02940.

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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.


Committee on Employment and Educational Policy
(December 1983)

Lida K. Barrett
Lisl Novak Gaal
Irwin Kra

Robert W. McKelvey
Donald C. Rung, chairman
Barnet M. Weinstock

Data Subcommittee

Lida K. Barrett
Susan J. Devlin
Lincoln K. Duret
Wendell H. Fleming

Arthur P. Mattuck
Donald C. Rung, chairman

Short Course Subcommittee

Stefan A. Burr, chairman
Cathleen S. Morawetz

Barbara L. Osofsky

Lisl Novak Gaal
Philip D. Straffin, Jr.

Robert W. McKelvey

Employment Concerns Subcommittee

Charlotte Lin
Audrey Terras
Robert J. Thompson

Barnet M. Weinstock, chairman

The list of assistantships and fellowships on the following pages at universities includes 399 departments of mathematics, applied mathematics, statistics, computer science, and related mathematical disciplines; these represent 281 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 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. Unreported information 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

Abbreviations used

ANT . . . Algebra or Number Theory
AFA . . . Analysis or Functional Analysis
GT . . . Geometry or Topology
L . . . . Logic
P . . . . Probability
S . . . . Statistics
CS . . . . Computer Science
OR . . . Operations Research
AM . . . Applied Mathematics
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 1984–1985

<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>(number anticipated</td>
<td>paid to student</td>
<td>paid by</td>
<td>hours</td>
<td>type</td>
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</tbody>
</table>

### Alabama

**Auburn University, Auburn University 36849**

**MATHEMATICS**
- Jack B. Brown, Head
  - Graduate Students: full-time 23; full-time first year 5; part-time 1

#### Teaching Assistantship (40)
- 6030–10250*
- 9 months
- 1080 dollars
- 5–10 hours
- Teaching

*1983–84 stipend.

**University of Alabama in Birmingham 35294**

**BIOSTATISTICS AND BIOMATHEMATICS**
- Alfred A. Bartolucci, Chairman
  - Graduate Students: full-time 8; full-time first year 4; part-time 1

#### Fellowship (4)
- 5500
- 12 months
- 1056 dollars
- Master's by dept.

#### Mathematics
- Louis Dale, Chairman
  - Graduate Students: full-time 4; full-time first year 2; part-time 3

#### Fellowship (2)
- 5500–6500
- 12 months
- 1380 dollars
- Teaching

### University of Alabama in Huntsville 35899

**COMPUTER SCIENCE**
- Sajjan Shiva, Chairman
  - Graduate Students: full-time 15; full-time first year 12; part-time 340

#### Teaching Assistantship (6)
- 6000–8000
- 9 months
- Waived
- 20 hours
- Teaching, grading

#### Research Assistantship (3)
- 6000–8000
- 9 months
- Waived
- 20 hours
- Research

**MATHEMATICS**
- F. Lee Cook, Chairman
  - Graduate Students: full-time 4; full-time first year 2; part-time 19

#### Teaching Assistantship (5)
- 5000–5500
- 9 months
- 4 hours
- Grading, teaching

*Several available.

### University of Alabama, Tuscaloosa 35486

**MANAGEMENT SCIENCE AND STATISTICS**
- F. H. Barron, Head
  - Graduate Students: full-time 30; full-time first year 10; part-time –

#### Fellowship (2)
- 6000
- 9 months
- 0–275 dollars
- 10 hours
- Teaching

#### Teaching Assistantship (14)
- 4500–9000
- 9 months
- 0–275 dollars
- 10 hours
- Teaching

### Alaska

**University of Alaska, Fairbanks 99701**

**MATHEMATICAL SCIENCES**
- Jack Distad, Chairman
  - Graduate Students: full-time 7; full-time first year 6; part-time –

#### Teaching Assistantship (12)
- 7207.20–7606.56
- 9 months
- 12–15 hours

### Arizona

**Arizona State University, Tempe 85287**

**MATHEMATICS**
- Joaquin Bustoz, Chair
  - Graduate Students: full-time 44; full-time first year 15; part-time 2

#### Teaching Assistantship (44)
- 6580–8970
- 9 months
- 850 dollars
- 20 hours
- Teaching
Northern Arizona University, Flagstaff 86011

MATHMATICS

Applications due: 4/1/84

Michael I. Ratliff, Chairman

Faculty 29; Published 11

Graduate Students: full-time 8; full-time first year 6; part-time 2

Teaching Fellowship (3) 6500 9 4

Teaching Assistantship (38) 4000 9 14


STIPEND

Northern Arizona
University, Flagstaff 86011

MATHEMATICS

Applications due: 4/1/84

Michael I. Ratliff, Chairman

Faculty 29; Published 11

Graduate Students: full-time 8; full-time first year 6; part-time 2

Teaching Fellowship (3) 6500 9 4

Teaching Assistantship (38) 4000 9 14


STIPEND

University of Arizona, Tucson 85721

COMPUTER SCIENCE

Applications due: 7/16/84

David R. Hanson, Head

Faculty 10; Published 11

Graduate Students: full-time 68; full-time first year 19; part-time 29

Teaching Assistantship (12) 4959-6026 9 42/unit* 20 Teaching

Research Assistantship (6) 4959-6026 9-12 42/unit* 20-40 Research

*Less than 7 units.

University of Arizona, Tucson 85721

MATHMATICS

Applications due: 2/15/84

Theodore Laetsch, Head

Faculty 48; Published 33

Graduate Students: full-time 60; full-time first year 14; part-time 9

Fellowship (1) 6200 9 Waived Ph. D. (80/83) ANT 3, AFA 1,

Teaching Assistantship (38) 5600-6300 9 755 6

University of Arizona, Tucson 85721

MATHEMATICS

Applications due: 4/1/84

Michael I. Ratliff, Chairman

Faculty 29; Published 11

Graduate Students: full-time 8; full-time first year 6; part-time 2

Teaching Fellowship (3) 6500 9 4

Teaching Assistantship (38) 4000 9 14


University of Arizona, Tucson 85721

MATHEMATICS

Applications due: 2/15/84

Theodore Laetsch, Head

Faculty 48; Published 33

Graduate Students: full-time 60; full-time first year 14; part-time 9

Fellowship (1) 6200 9 Waived Ph. D. (80/83) ANT 3, AFA 1,

Teaching Assistantship (38) 5600-6300 9 755 6

Arkansas

Arkansas State University, State University 72467

COMPUTER SCIENCE, MATHEMATICS AND PHYSICS

Applications due: 4/1/84

J. L. Linnstaedter, Chairman

Faculty 25; Published 11

Graduate Students: full-time 8; full-time first year 5; part-time 4

Teaching Assistantship (6) 3960 9 540-750 3

University of Arkansas, Fayetteville 72701

MATHEMATICAL SCIENCES

Applications due: 3/15/84

Bernard L. Madison, Chairman

Faculty 28; Published 22

Graduate Students: full-time 30; full-time first year 10; part-time 4

Teaching Assistantship (3) 5000-6000 9 6 Ph. D. (80/83) AFA 1. Total: 1

University of Arkansas at Little Rock 72204

MATHMATICS

Applications due: 3/15/84

Alan M. Johnson, Chairman

Faculty 12; Published 5

Graduate Students: full-time 8; full-time first year 3; part-time 5

Fellowship (2) 5190 9 20 Grading

Teaching Assistantship (8) 6000 12 900 20 Teaching

The Department of Mathematics invites applications from outstanding students for a $6200 graduate fellowship and for teaching assistantships. The Department of Mathematics has graduate programs in mathematics leading to Master of Arts, Master of Science, and Doctor of Philosophy degrees. Various areas of mathematics are represented; areas in which there is particularly strong faculty interest are algebra, number theory, and applied mathematics. The University, which has approximately 30,000 students currently enrolled, offers diversified educational and cultural activities.

For further information write to:

Graduate Committee, Department of Mathematics
Building 89, University of Arizona, Tucson, Arizona 85721
Equal Opportunity/Affirmative Action Employer
<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>dollars</td>
<td>student ($)</td>
<td>per week</td>
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<td>California Institute of Technology, Pasadena 91125</td>
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<td>APPLIED MATHEMATICS</td>
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<td>Bachelor's by inst.</td>
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<td>H. B. Keller, Executive Officer</td>
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<td>Bachelor's by inst.</td>
<td>2792</td>
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<td>P. F. Murphy, Acting Head</td>
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<td>*Nonresident: $72 per quarter unit.</td>
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<td>California State Polytechnic University, Pomona 91789</td>
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<td>Bachelor's by inst.</td>
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<td>V. Merriline Smith, Chair</td>
<td>Faculty 42; Published 17</td>
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<td>California State University, Fresno 93740</td>
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<td>Henderson Yeung, Chairman</td>
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<td>Michael Orkin, Chairman</td>
<td>Graduate Students: full-time 9; full-time first year 7; part-time 20</td>
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<td>*$708 (3 quarters).</td>
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<td>California State University, Long Beach 90840</td>
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<td>Wayne Bishop, Chair</td>
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<td>Claremont Graduate School, Claremont 91711</td>
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<td>Clinic Team Leader (4)</td>
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<tr>
<th>Humboldt State University, Arcata 95521</th>
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<td><strong>MATHMATICS</strong> Applications due: 5/1/84</td>
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<td>Elmo Moore, Chair</td>
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<td>Teaching Assistantship (3) 4904-5332</td>
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<td>9 468* 20 Teaching</td>
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<td>*Plus $72 per unit for nonresidents.</td>
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<td>Jacqueline Dewar, Chairperson</td>
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<td>Scholarship (1) 500-1500</td>
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<tr>
<td><strong>MATHEMATICAL SCIENCES</strong> Applications due: 4/15/84</td>
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<tr>
<td>R. Lee Van de Wetering, Chairman</td>
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<td>Faculty 55; Published 22</td>
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<tr>
<td>Graduate Students: full-time 30; full-time first year 30; part-time 158</td>
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<tr>
<td>Teaching Assistantship (20) 3122-3391</td>
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<td>*$227 per 6 units.</td>
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<td>John Mitchem, Chairman</td>
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<tr>
<td>Teaching Fellowship (18-20) 3500-7000</td>
</tr>
<tr>
<td>9 744* 3-6 Teaching</td>
</tr>
<tr>
<td>*Nonresidents and foreign students pay an additional $108 per unit.</td>
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</table>

<table>
<thead>
<tr>
<th>Stanford University, Stanford 94305</th>
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<tbody>
<tr>
<td><strong>ENGINEERING-ECONOMIC SYSTEMS</strong></td>
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<tr>
<td>Applications due: 2/15/84</td>
</tr>
<tr>
<td>David G. Luenberger, Chairman</td>
</tr>
<tr>
<td>Faculty 8; Published 8</td>
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<tr>
<td>Graduate Students: full-time 100; full-time first year 36; part-time 11</td>
</tr>
<tr>
<td>Fellowship (7) 5000*</td>
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<tr>
<td>Teaching Assistantship (10) 5202-6231*</td>
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<tr>
<td>9 20 Tutoring grading</td>
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<tr>
<td>Research Assistantship (19) 5202-6231*</td>
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<tr>
<td>9 20 Research</td>
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<tr>
<td>Scholarship (5) Work/Study (12)**</td>
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<tr>
<td>*Figures given are for 1983-84; budgets for 1984-85 are prepared in the Spring.</td>
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<td>**Tuition and fees paid by corporation.</td>
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</table>

**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:

W A Y N E  B I S H O P ,  C h a i r  
Department of Mathematics and Computer Science  
California State University, L. A.  
Los Angeles, California 90032  

**AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY/HANDICAPPED/TITLE IX EMPLOYER**
MATHEMATICS
Applications due: 1/15/84
Bachelor's by inst. 1663
Gregory Brumfiel, Chairman
Faculty 28; Published 24
Bachelor's by dept. 32
Graduate Students: full-time 45; full-time first year 13, part-time 0
Ph. D. (80/83) ANT 2, AFA 7, GT 4, L 1, P 1, CS 1, OR 1, AM 4, Other 3. Total: 24
Graduate Assistantship (40)* 5600–7000
9 **
Ph. D. (80/83) OR 23. Total: 23
Teaching Assistantship (4) 6500
9 15 Grading, assisting
Research Assistantship (20) 6500
9 15 Research

*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.

OPERATIONS RESEARCH
Applications due: 3/1/84
Bachelor's by inst. 1663
Arthur F. Veinott, Jr., Chairman
Faculty 9; Published 9
Bachelor's by dept. 24
Graduate Students: full-time 117; full-time first year 67; part-time 1
Ph. D. (80/83) OR 22, Other 2.
Fellowship (7) 5500
9
Teaching Assistantship (4)* 7650
10 2390.50 **
Research Assistantship* 6420
10 2390.50 **
Ph. D. (80/83) OR 20. Total: 24

*Number not known at this time.

**50% time.

INDUSTRIAL ENGINEERING AND OPERATIONS RESEARCH
Applications due: 12/15/83
Bachelor's by inst. 303
C. Roger Glassey, Chairman
Faculty 14; Published 14
Bachelor's by dept. 14
Graduate Students: full-time 88; full-time first year 29; part-time 3
Master's by dept. 24
Ph. D. (80/83) Total: 30
Fellowship (9) 4000
10
Teaching Assistantship* 6100
9 **
Research Assistantship* 7500
9 15 Teaching
Ph. D. (80/83) OR 22, Other 2.

*New students: 12/15/83. Continuing students: fellowships 12/1/83; assistantships 2/1/84.

**Resident: $710 per semester; nonresident: $2390 per semester. An increase is expected.

University of California, Berkeley 94720

Leon Henkin, Chairman
Faculty 80; Published 60
Bachelor's by dept. 100
Graduate Students: full-time 74; full-time first year 1; part-time –
Master's by dept. 20
Fellowship (20) 500–7245.50
9 **
Teaching Assistantship (120) 7600
9 ** 15 Teaching
Ph. D. (80/83) Total: 30
Research Assistantship (20) 6100
9 **

*Fellowships: 12/15/83; assistantships: 2/1/84.

**Nonresidents subject to additional fee of $1680 per semester; some waivers available.

**Most research assistants also employed as teaching assistants concurrently.

University of California, Davis 95616

MATHEMATICS
Applications due: *
Bachelor's by dept. 43
Carlos R. Borges, Chair
Faculty 32; Published 0
Master's by dept. 4
Graduate Students: full-time 34; full-time first year 14; part-time 0
Ph. D. (80/83) ANT 1, AFA 1, GT 4. Total: 6
Fellowship (4) 4200**
9
Teaching Assistantship (28) 1500
9 20
Ph. D. (80/83) OR 1, Other 3. Total: 7
Scholarship (2) 4200**
9
Associate-In (0) 15430
9 20 Teaching, grading

*Fellowships: 1/15/84; assistantships: 2/15/84.

**Plus fees.

University of California, Irvine 92717

MATHEMATICS
Applications due: 2/1/84
Master's by dept. 3
James J. Yeh, Chairman
Faculty 38; Published 2
Graduate Students: full-time 38; full-time first year 4; part-time 2
Ph. D. (80/83) ANT 1, AFA 3, P 2, S 1. Total: 7
Teaching Assistantship (24) 7515
9 1453.50 20 Grading, teaching

TYPE OF ASSISTANCE
(number anticipated 1984–1985)

STIPEND
paid to student
dollars

FEES
paid by
student ($) per week

SERVICE REQUIRED
hours of service

DEGREES AWARDED
Academic year 1982–1983

Bachelor's by inst.
Master's by dept.
Ph. D. (80/83)
Master's by dept.
Bachelor's by dept.
Master's by dept.
Bachelor's by dept.
Bachelor's by dept.
Ph. D. (80/83)
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<th>STIPEND</th>
<th>FEES</th>
<th>SERVICE REQUIRED</th>
<th>DEGREES AWARDED</th>
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<td>dollars</td>
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<td></td>
<td>months</td>
<td></td>
<td>per week of service</td>
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University of California, Los Angeles 90024

BIOMATHEMATICS
Carol M. Newton, Chairman

Applications due: 3/1/84
Faculty 9; Published 3

Graduate Students: full-time 5; full-time first year 2; part-time 9

Ph. D. (80/83) Other 4. Total 4

<table>
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<th>Fellowship (3-4)</th>
<th>3200-9000</th>
<th>9</th>
<th>Full 10</th>
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<td>Teaching Assistantship (1)</td>
<td>7200-7400</td>
<td>9</td>
<td>10 Grading, teaching</td>
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<td>Nonresident Tuition Waiver (1-2)</td>
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*Resident: 80-$1,375; nonresident: 80-$84,700.

University of California, Riverside 92521

MATHEMATICS
Robert J. Blattner, Chairman

Applications due: 2/15/84
Faculty 65; Published 60

Graduate Students: full-time 111; full-time first year 28; part-time 18

Ph. D. (80/83) ANT 5, AFA 4, GT 3, L 3, P 2, S 3, AM 7.

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<tr>
<th>Fellowship (6-8)</th>
<th>7600</th>
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<th>Waived 2</th>
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<td>Teaching fellowship (6-8)</td>
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<td>Research Assistantship (8)</td>
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<td>1413 Research</td>
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<tr>
<td>Community Teaching Fellowship (3)</td>
<td>7812</td>
<td>9</td>
<td>1413-4753 5 Teaching</td>
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community fellowship (3) 9 1413-4753 5 Teaching

University of California, Los Angeles

Programs. The Department offers the degrees Master of Arts (M.A.), Master of Arts in Teaching (M.A.T.) and Doctor of Philosophy (Ph.D.) in Mathematics. Students have the option of working within an interdisciplinary program in applied mathematics.

Financial support. About 80% of the full-time graduate students receive full financial support, and an additional 10% receive partial support. "Full support" yields a clear stipend of $6400 to $8300 for the nine-month academic year, after all necessary fees and tuition are paid; the exact amount depends on the student's level and teaching experience. Most of the supported students are teaching assistants, but there are some full fellowships and research assistantships and several students are half-time teaching assistants and half-time fellows. Full-time teaching assistants teach four hours of class and hold three office hours each week and they help proctor and grade examinations.

For additional information write to: Graduate Advisor, Department of Mathematics, University of California, Los Angeles, CA 90024.

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. UCR has a total of less than 4500 students, including approximately 1300 graduate students. The Department of Mathematics has a faculty of 19 and about 35 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, LOS ANGELES

Programs. The Department offers the degrees Master of Arts (M.A.), Master of Arts in Teaching (M.A.T.) and Doctor of Philosophy (Ph.D.) in Mathematics. Students have the option of working within an interdisciplinary program in applied mathematics.

Financial support. About 80% of the full-time graduate students receive full financial support, and an additional 10% receive partial support. "Full support" yields a clear stipend of $6400 to $8300 for the nine-month academic year, after all necessary fees and tuition are paid; the exact amount depends on the student's level and teaching experience. Most of the supported students are teaching assistants, but there are some full fellowships and research assistantships and several students are half-time teaching assistants and half-time fellows. Full-time teaching assistants teach four hours of class and hold three office hours each week and they help proctor and grade examinations.

For additional information write to: Graduate Advisor, Department of Mathematics, University of California, Los Angeles, CA 90024.

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. UCR has a total of less than 4500 students, including approximately 1300 graduate students. The Department of Mathematics has a faculty of 19 and about 35 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

Mathematics

Applications due: 1/15/84
Bachelor's by inst. 1638
Bachelor's by dept. 33
Master's by dept. 16
Ph. D. (80/83) ANT 8, AFA 2,
Teaching Assistantship (45)
Research Assistantship (1)
Scholarship (12)
Fees and/or Tuition

6000-8500 9 or 12 3 or 4 5000 11 5000 20

In 1983-84 all graduate students (resident and nonresident) pay per quarter $478.50. Nonresident graduate students pay per quarter $1120 tuition in addition to the above. Health Insurance, $40.70 per quarter, is mandatory for foreign students.

**The 12 Tuition and/or Fee Scholarships are given in addition to the fellowships, teaching assistantship and research assistantships mentioned above.

University of California, Santa Barbara 93106

Mathematics

Applications due: 1/15/84
Bachelor's by inst. 1792
Bachelor's by dept. 80
Ph. D. (80/83) ANT 6, AFA 6,
Teaching Assistantship (40)
California Teaching Fellowship (2)
Fees and/or Tuition

1000-3000 9 5000 20
9 20

*In-state: $1518; out-of-state: $1518 plus $3360.

University of California, Santa Cruz 95064

Mathematics

Applications due: 2/1/84
Bachelor's by inst. 29
Bachelor's by dept. 17
Ph. D. (80/83) ANT 1, AFA 4,
Teaching Assistantship (15)
Fees and/or Tuition

5000 20

*In addition to assistantship.

University of Southern California, Los Angeles 90089

Computer Science

Applications due: 7/1/84
Bachelor's by inst. 3000
Bachelor's by dept. 80
Master's by dept. 74
Ph. D. (80/83) CS 11.
Teaching Assistantship (15)
Fees and/or Tuition

6800-7500 9 100 20
9 20

MATHEMATICS

Applications due: 7/1/84
Bachelor's by inst. 3000
Bachelor's by dept. 22
Master's by dept. 7
Ph. D. (80/83) ANT 1, AFA 4,
Teaching Assistantship (15)
Fees and/or Tuition

6500-7200 9 15
9 **

*As many as qualified.
**In addition to assistantship.

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. (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 ($650 per month + Tuition and/or Fees for 9 months). Research Assistantships (approximately $648 per month). Teaching Assistantships (approximately $835 per month for 9 months). San Diego Fellowship (for educationally disadvantaged students; approximately $650 per month + Fees for 9 months).

Department of Mathematics - University of California, San Diego
La Jolla, California 92037
Colorado School of Mines, Golden 80401

MATHMATICS
Applications due: 7/1/84
Ardel J. Boes, Head
Faculty 19; Published 14
Graduate Students: full-time 7; full-time first year 5; part-time 7

Fellowship (1) 4950-5400 9 Waived 12 Grading, teaching
Teaching Assistantship (5) 4950-5400 9 Waived 12 Research

Colorado State University, Ft. Collins 80523

MATHMATICS
Applications due: 4/15/84
Robert E. Gaines, Chairman
Faculty 33; Published 28
Graduate Students: full-time 36; full-time first year 13; part-time 6

Teaching Assistantship (34) 6400-7800 9 270 15 Teaching
Research Assistantship (3) 6400-7800 9 270 15 Research

STATISTICS
Applications due: 3/15/84
Duane C. Boes, Chairman
Faculty 15; Published 15
Graduate Students: full-time 39; full-time first year 10; part-time 0

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

University of Colorado, Boulder 80309

MATHMATICS
Applications due: 2/28/84
John H. Hodges, Chairman
Faculty 44; Published 30
Graduate Students: full-time 45; full-time first year 15; part-time 1

Fellowship (1) 3500 9 12 Teaching
Teaching Fellowship (12) 6500-7700 9 20 Teaching, grading
Teaching Assistantship (40) 5500-5700 9 20 Teaching, grading

University of Colorado at Denver 80202

MATHMATICS
Applications due: 4/15/84
Zenas Hartvigson, Chairman
Faculty 18; Published 10
Graduate Students: full-time 30; full-time first year 13; part-time 12

Teaching Assistantship (15) 6300 9 42/cr.hr. 6 Teaching

University of Denver, Denver 80208

MATHMATICS AND COMPUTER SCIENCE
Applications due: 3/1/84
Stanley Gudder, Chairman
Faculty 20; Published 10
Graduate Students: full-time 30; full-time first year 10; part-time 80

Teaching Assistantship (20) 4500 9 10 Ph. D. (80/83) AFA 1, AM 1.
Total: 2

University of Southern California

The Department of Mathematics currently offers the following degree programs:
Ph.D. in Mathematics, M.S. in Mathematics, M.S. in Applied Mathematics, and
M.S. in Statistics. A Ph.D. program in Applied Mathematics is being planned
for Fall 1984. The wide range of faculty interest includes Algebra, Analy­
sis, Nonlinear Functional Analysis, Biomathematics, Differential Geometry,
Mathematical Physics, Numerical Analysis, Ordinary Differential Equations,

The financial support consists of:
• Teaching Assistantship $6,500-7,200 for nine months plus tuition remis­
  sion
• Dean's Scholarship $3,600 in addition to TAship 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

850
University of Northern Colorado, Greeley 80639

MATHEMATICS AND APPLIED STATISTICS
Applications due: 2/28/84
Rex R. Schweers, Chairman
Faculty 16; Published 6
Graduate Students: full-time 19; full-time first year 9; part-time 1
Teaching Assistantship (4) 4550-5040 9 * 6 Teaching
*Resident: $453 per quarter; nonresident: $819 per quarter.

Connecticut

Central Connecticut State University, New Britain 06050

R. M. Kennedy, Chairman, Mathematics and Statistics
Faculty 32; Published 4
G. B. Miller, Chairman, Applied Mathematics and Computer Science
Graduate Students: full-time 7; full-time first year 3; part-time 25
Teaching Assistantship (2.50) 1440/sem. 9 * 6 Teaching
*Resident: $303 per semester.

University of Connecticut, Storrs 06268

E. Spiegel, Head
Faculty 33; Published 26
Graduate Students: full-time 25; full-time first year 11; part-time 0
Teaching Fellowship (3) 5800-6500 9* 576 6 Ph. D. (80/83) ANT 4, GT 3,
Teaching Assistantship (22) 5665-7040 9* 576 12 Total: 7
*Some summer support available through fellowships and work study.

THE UNIVERSITY OF CONNECTICUT

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.
<table>
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<td>University of Delaware, Newark 19716</td>
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<td>Graduate Students: full-time 9; full-time first year 5; part-time 1</td>
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<td>Research Assistantship (35-40)</td>
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<td>R. W. Beals, Chairman</td>
<td>Faculty 26; Published 26</td>
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<td>Graduate Students: full-time 95; full-time first year 10; part-time 0</td>
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<td>Fellowship (10)</td>
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<td>Grading, tutoring</td>
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<td>*Amounts for incoming students 1983.</td>
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<td>Graduate Students: full-time 18; full-time first year 5; part-time 2</td>
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<td>20</td>
<td>Consulting</td>
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<td>*Most students receive a tuition fellowship from the University; tuition is more than $8700.</td>
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<td>**3rd- and 4th-year students earn half of their stipend through teaching, consulting, or work on a research contract.</td>
<td></td>
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<td>***Funds available for 1983-1984, $7150; if maximum is paid the positions must be reduced in number.</td>
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District of Columbia

George Washington University, Washington 20052

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<th>MATHEMATICS</th>
<th>Applications due: 2/15/84</th>
<th>Bachelor's by inst. 1700</th>
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<td>T. P. G. Liverman, Chairman</td>
<td>Faculty 12; Published 8</td>
<td>Bachelor's by dept. 6</td>
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<tr>
<td>Graduate Students: full-time 8; full-time first year 4; part-time 20</td>
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<td>Fellowship (5)</td>
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852
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<td>Terry J. Frederick, Chairman</td>
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<td>Department of Mathematics and Computer Science</td>
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<td>Lokenath Debnath, Chairman</td>
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<td>A. R. Bednarek, Chairman</td>
<td>Faculty 23; Published 23</td>
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<td>R. L. Scheaffer, Chairman</td>
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<td>MATHEMATICS AND COMPUTER SCIENCE</td>
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<td>Master's by dept. 52</td>
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<td>Shair Ahmed, Chairman</td>
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<td>MATHEMATICAL SCIENCES</td>
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<td>W. H. Caldwell, Chairperson</td>
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<td>M. N. Manougian, Chairman</td>
<td>Faculty 31; Published 19</td>
<td>Graduate Students: full-time 26, full-time first year 12, part-time 8</td>
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<td>* 8'</td>
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<tr>
<td>*Tuition waivers are available to qualified students.</td>
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</table>

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 Statistics and Computing, 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 about 25,000 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. M. N. Manougian, Chairman — Department of Mathematics
University of South Florida — Tampa, Florida 33620
### Georgia

**Emory University, Atlanta 30322**

**MATHEMATICS AND COMPUTER SCIENCE**

<table>
<thead>
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<th>Type of Assistance</th>
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Applications due: 2/15/84  
Faculty 19; Published 13  
Graduate Students: full-time 15; full-time first year 6; part-time 1  
Ph. D. (80/83) ANT 2, AFA 1, Other 2. Total: 5

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**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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**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 $5700 and $6500 for nine months, plus tuition. Assistants typically teach one class per semester.

**Woodruff Fellowships**  
The University also offers a number of Woodruff Fellowships carrying an $8500 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 the Director of Graduate Studies  
Department of Mathematics and Computer Science  
Emory University  
Atlanta, Georgia 30322
Georgia Institute of Technology, Atlanta 30332

INFORMATION AND COMPUTER SCIENCE

Applications due: 4/1/84
Graduate Students: full-time 171; full-time first year 85; part-time 40

Teaching Assistantship (10) 10000-13000 12 * 20 Grading, teaching
Research Assistantship (14) 10000-13000 12 * 20 Research

Ph. D. (80/83) CS 7. Total: 7

*Resident: $1227; nonresident: $3027.

University of Georgia, Athens 30602

MATHEMATICS

Applications due: 2/15/84
Graduate Students: full-time 29; full-time first year 9; part-time 4

Teaching Assistantship (15) 8500-9800 12 1200 5

Ph. D. (80/83) AM 4. Total: 4

*2 months before each quarter.

University of Hawaii at Manoa, Honolulu 96822

MATHEMATICS

Applications due: 3/1/84
Graduate Students: full-time 70; full-time first year 30; part-time 5

Teaching Assistantship (30) 5463 9 804 13

Ph. D. (80/83) S 8. Total: 8

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 assistantships 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

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 assistantships 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
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<tr>
<th>TYPE OF ASSISTANCE</th>
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<th>SERVICE REQUIRED</th>
<th>DEGREES AWARDED</th>
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**Idaho**

**Idaho State University, Pocatello 83209**

**MATHEMATICS**

- Applications due: 3/15/84
- Graduate Students: full-time 12; full-time first year 4; part-time 2
- Fellowship (8) 4000 9 4.5
- Teaching Assistantship 4000 9

**University of Idaho, Moscow 83843**

**MATHEMATICS AND APPLIED STATISTICS**

- Applications due: 3/15/84
- Graduate Students: full-time 17; full-time first year 7; part-time 3
- Teaching Assistantship (16) 6400-6800 9 1000 5
- Research Assistantship (1) 6400-6800 9 1000 15

**Illinois**

**Eastern Illinois University, Charleston 61920**

**MATHEMATICS**

- Applications due: 3/1/84
- Graduate Students: full-time 15; full-time first year 8; part-time 2
- Teaching Assistantship (12) 3960 9 5
- Graduate Assistantship (2) 2970 9 10

**Illinois Institute of Technology, Chicago 60616**

**COMPUTER SCIENCE**

- Applications due: 4/1/84
- Graduate Students: full-time 50; full-time first year 20; part-time 400
- Teaching Assistantship (26) 4600-6000 9 20

**Illinois State University, Normal 61761**

**MATHEMATICS**

- Applications due: 4/1/84
- Graduate Students: full-time 11; full-time first year 5; part-time 8
- Teaching Assistantship (10-12) 3375-3825 9 Waived 4 Teaching
- Instructorship (3) 7200-9000 9 ** 6-8' Teaching
- Doctoral Assistantship (3-5) 5500-6500 9 Waived 4 Teaching

**Late applications can be considered.**

**Northeastern Illinois University, Chicago 60625**

**MATHEMATICS**

- Applications due: 8/1/84
- Graduate Students: full-time 2; full-time first year 4; part-time 48
- Teaching Assistantship (4) 210-3700 10 9-18 Teaching, tutoring
- Faculty Assistantship (2) 4000-6000 10 0-600 16-32 Teaching, tutoring

**Northern Illinois University, Dekalb 60115**

**MATHEMATICAL SCIENCES** (Ad on p. 858)

- Applications due: 7/1/84
- Graduate Students: full-time 42; full-time first year 21; part-time 20
- Teaching Assistantship (44) 5500-7000 9 15 Grading, teaching
- Research Assistantship (1) 5500-7000 9 15 Research

**Engineering Sciences and Applied Mathematics** (Ad on p. 858)

- Applications due: 2/15/84
- Graduate Students: full-time 25; full-time first year 9; part-time 0
- Fellowship (10) 6300-7200 9 Waived
- Teaching Assistantship (5) 5700-6300 9 Waived 12 Teaching
- Research Assistantship (10) 8400-9000 12 Waived 12 Research

**Ph. D. (80/83) AM 3. Total: 3**

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857
INDUSTRIAL ENGINEERING AND MANAGEMENT SCIENCES
Applications due: 2/15/84
Faculty 14; Published 13
Graduate Students: full-time 46; full-time first year 13; part-time 6
Ph. D. (80/83) S 1, OR 8,
Other 5. Total: 14

Fellowship (6)*
6570-6750  9
Teaching Assistantship (11)*
6100  9  15
Research Assistantship (5)*
7707-8877  9  2775  15
Scholarship (2)*


MANAGERIAL ECONOMICS AND DECISION SCIENCES
Applications due: 1/15/84
Faculty 20; Published 17
Graduate Students: full-time 21; full-time first year 4; part-time –
Ph. D. (80/83) OR 1, AM 3.
Total: 4

Fellowship (6)
5400  9

MATHEMATICS
Applications due: 1/15/84
Faculty 38; Published 38
Graduate Students: full-time 42; full-time first year 9; part-time 1
Ph. D. (80/83) ANT 2, AFA 3,
GT 1, S 1, AM 2, Other 3.
Total: 12

Fellowship (8-12)
6100  9  Waived  2-3  Grading, teaching, research
Teaching Assistantship (30-35)
6100  9  Waived  2-3  Grading, teaching, research

Department of Mathematical Sciences
NORTHERN ILLINOIS UNIVERSITY
The Department of Mathematical Sciences offers the Master of Science degree in pure and applied mathematics, computational mathematics, applied probability and statistics and mathematics education. Each student's program is tailored to his or her background and career objectives. Financial assistance in the form of Graduate Teaching Assistantships is available. Send inquiries to:
Professor Peter Nicholls, Director of Graduate Studies
Department of Mathematical Sciences
Northern Illinois University
DeKalb, IL 60115

Equal Opportunity/Affirmative Action Employer

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 ($5700–$7200, 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
<table>
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<th>TYPE OF ASSISTANCE</th>
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<td>paid by</td>
<td>hours per week</td>
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**Southern Illinois University, Carbondale 62901**

**MATHEMATICS**

Applications due: *2/1/84 for fellowships; 4/1/84 for assistantships. Late applications considered for vacancies.

- **Fellowship (2)** 4930-5280 11 235-413 6 Teaching Graduate Students: full-time 35; full-time first year 14; part-time 6 8000 9 235-413 6 Teaching AM 2. Total: 4
- **Teaching Assistantship (20)** 4860-5292 9 235-413 6 Teaching
- **Teaching Assistantship (5)** 5940-6468 11 235-413 6 Teaching
- **Scholarship (10)** 6000 9 10 Ph. D. (80/83) S 8. Total: 8
- **Self-support (3)** 3800

**University of Chicago, Chicago 60637**

**STATISTICS**

Applications due: 2/1/84 Bachelor's by dept. 3

- Paul Meier, Chairman
  - **Teaching Assistantship (5)** 3310 9 106.50 20 Teaching
  - **Teaching Assistantship (22)** 7100-7500 9 106.50 20 Teaching

**University of Illinois, Chicago 60680**

**ELECTRICAL ENGINEERING AND COMPUTER SCIENCE**

Applications due: 2/15/84 Bachelor's by dept. 2123

- Wai-Kai Chen, Head
  - **Fellowship (5)** 2000-8000 9 Ph. D. (80/83) Other 11.
  - **Fellowship (8)** 5550-5736 9 Waived

- **Research Assistantship (3)** 5550-5736 9 Waived

- **Scholarship (10)** 1000-2000 9 502-1254/qtr. 1506-3762/yr.

**MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE**

Applications due: * Bachelor's by dept. 2123

- Louise Hay, Chairman
  - **Fellowship (8)** 2000-6000 9 Waived
  - **Research Assistantship (3)** 5550-5736 9 Waived

- **Research Assistantship (10)** 3000-6000 9 Research

**University of Illinois, Urbana 61801**

**MATHEMATICS**

Applications due: 2/15/84 Bachelor's by dept. 6058

- Heini Halberstam, Head
  - **Fellowship (8)** 4000 12 200 Ph. D. (80/83) ANT 8, AFA 4, GT 2, L 1, P 2, S 5, CS 1, AM 2, Other 1. Total: 17
  - **Research Assistantship (150)** 5965-6335 9 200 5

- **Research Assistantship (18)** 7100-7500 9 106 20 Grading, teaching

**THEORETICAL AND APPLIED MECHANICS**

Applications due: 3/1/84 Bachelor's by dept. 2062

- A. J. Shryock, Acting Chairperson
  - **Teaching Assistantship (7)** 3150-4050 9 136.50 15 Grading, teaching

**Western Illinois University, Macomb 61455**

**MATHEMATICS**

Applications due: 3/1/84 Bachelor's by dept. 2062

- A. J. Shryock, Acting Chairperson
  - **Teaching Assistantship (15)** 3310 9 106.50 20 Teaching
  - **Research Assistantship (1-2)** 3550 9 106.50 20 Research

**Ball State University, Muncie 47306**

**MATHEMATICAL SCIENCES**

Applications due: 3/1/84 Bachelor's by dept. 2105

- Donald R. Whitaker, Chairman
  - **Teaching Assistantship (15)** 3310 9 106.50 20 Teaching
  - **Research Assistantship (1-2)** 3550 9 106.50 20 Research

**Indiana**
Indiana State University, Terre Haute 47809

**MATHEMATICS AND COMPUTER SCIENCE**

Applications due: 2/15/84

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<th>Service Required</th>
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**Indiana University, Bloomington 47405**

**COMPUTER SCIENCE**

Applications due: 2/1/84

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**MATHEMATICS**

Applications due: 2/1/84

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**Indiana University-Purdue University at Indianapolis 46223**

**MATHEMATICAL SCIENCES**

Faculty 21; Published 18

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**Purdue University, West Lafayette 47907**

**COMPUTER SCIENCES**

Applications due: 2/1/84

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**Computer Science at Western Illinois University**

Western Illinois University offers a graduate program in computer science leading to the M.S. degree. Areas of emphasis in this program include graphics, computer communications networks, data bases, architecture, and small scale computer systems. Additional coursework is available in operating systems, programming languages, artificial intelligence, theory of computation, and other areas.

Computer facilities include an IBM 4341, a CDC Cyber 170/730, and a PDP - 11. In addition, the Department maintains a microcomputer lab with several IBM PC, Apple, TRS - 80, Commodore, and INTECOLOR systems with disks, printers, plotter, and color graphics capabilities.

Financial aid is available in the form of tuition-free graduate assistantships or instructor positions.

For detailed information and application forms write to:

Dr. D. D. Hearn
Chairperson, Computer Science Department
Western Illinois University
Macomb, IL 61455

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860
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<td>M. S. Baouendi, Chairman</td>
<td>Faculty 68; Published 47</td>
<td>Graduate Students: full-time 129; full-time first year 50; part-time 2</td>
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<td>Shanti S. Gupta, Head</td>
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<td>Faculty 14; Published 7</td>
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<td>A. K. Steiner, Chairman</td>
<td>Faculty 70; Published 40</td>
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<td>H. A. David, Director and Head</td>
<td>Faculty 35; Published 32</td>
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<td>Herbert W. Methcote, Chairman</td>
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University of Northern Iowa, Cedar Falls 50614

Mathematics and Computer Science

Applications due: 3/1/84

Bachelor's by inst. 1639
Bachelor's by dept. 34
Master's by dept. 1

University of Kansas, Lawrence 66045

Mathematics

Applications due: 3/1/84

Bachelor's by inst. 3309
Bachelor's by dept. 29
Master's by dept. 7

Pittsburg State University, Pittsburg 66762

Mathematics

Applications due: 3/1/84

Bachelor's by inst. 134
Bachelor's by dept. 10
Master's by dept. 2

*Partial tuition scholarship.

**All graduate students eligible, including teaching assistants.
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 $750 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
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<td>J. Gani, Chairman</td>
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**DEAN'S FELLOWSHIPS IN MATHEMATICS UNIVERSITY OF KENTUCKY**

$9000/9 months, fees paid, renewable

The stipend includes $2850 from a half-time Teaching Assistantship, which entails one course per semester of three to four contact hours per week. Supplementary Summer support is often available. Applications from well-qualified students are invited for the academic year 1984-85, and will also be considered for other forms of support, including other Fellowships and Assistantships. For several years the Department of Mathematics has supported all of its graduate students. The full-time faculty of 47 is distinguished. Teaching and research is carried on in a diversity of fields in both pure and applied mathematics.

Programs of graduate study leading to Ph.D. and Master's degrees are offered for careers in industry, teaching, and research.

More information and application forms are available upon request to

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
DOCTOR OF PHILOSOPHY IN COMPUTER SCIENCE

Louisiana State University, Baton Rouge, 70803, awards the Doctor of Philosophy Degree in Computer Science for a combination of course work and dissertation research. The program offers advanced study in theoretical computing, database management and information retrieval, software engineering, intelligent systems and graphics, computer architecture, and numerical methods of computation. Teaching and research assistantships and fellowships are available. For further information contact:

Graduate Admissions Committee
Computer Science Department

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 mathematical 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 Science) which prepares students either for a doctoral program or for a variety of employment opportunities.

FINANCIAL AID

Graduate teaching assistantships are available with a stipend of $6,800 for the 1984-85 academic year. The duties are 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 $9,000 a year and are placed in a university competition for 20 LSU Alumni Federation Graduate Fellowships paying $10,000 per year. Graduate assistants and fellows are exempt from all tuition and University fees except for a $102 activity fee each semester. The application deadline including the receipt of three letters of recommendation for fellowship consideration is February 10, 1984.

GRADUATE FACULTY AND RESEARCH AREAS

Particularly strong research areas at LSU include:


ALGEBRAIC and DIFFERENTIAL TOPOLOGY: P. E. Conner (Princeton), P. M. Gilmer (Berkeley), N. Stofelitz (Princeton) S. H. Weintraub (Princeton), R. Litherland (Cambridge)


COMMUTATIVE ALGEBRA and ALGEBRAIC NUMBER THEORY: H. S. Butts (Ohio State), C. M. Cordes (Maryland), J. Hurrelbrink (Göttingen), R. Perlis (M.I.T.)


INFINITE DIMENSIONAL TOPOLOGY: D. W. Curtis (Iowa State)

PARTIAL DIFFERENTIAL EQUATIONS: C. E. Colliect (Indiana). J. R. Dorroh (Texas). G. Ferenay (Rutgers)


For more information and an application form, write to:
Professor Neal W. Stofelitz
Director of Graduate Studies
Department of Mathematics
Louisiana State University
Baton Rouge, LA 70803-4918
McNeese State University, Lake Charles 70699

MATHEMATICAL SCIENCES Applications due: Open Bachelor's by inst. 619
George F. Mead, Jr., Head Faculty 20; Published 12 Bachelor's by dept. 14
Graduate Students: full-time 8; full-time first year 6; part-time 0 Master's by dept. 1
Teaching Assistantship (5) 4000-6000 9 673 6" Teaching
Scholarship (10) 1000 673

Tulane University, New Orleans 70118

MATHEMATICS Applications due: 2/1/84 Bachelor's by inst. 1167
M. W. Mislove, Chairman Faculty 30; Published 26 Bachelor's by dept. 20
Graduate Students: full-time 24; full-time first year 10; part-time 8
Total: 8

University of New Orleans, New Orleans 70148

MATHEMATICS Applications due: 5/1/84 Bachelor's by dept. 10
Terry A. Watkins, Chairman Faculty 50; Published 15 Master's by dept. 2
Graduate Students: full-time 10, full-time first year 5; part-time 10
Teaching Assistantship (10) 4500–5200 9 6" Teaching

University of Southwestern Louisiana, Lafayette 70504

COMPUTER SCIENCE Applications due: 3/1/84 Bachelor's by dept. 1450
Terry M. Walker, Head Faculty 15; Published 12 Bachelor's by dept. 61
Graduate Students: full-time 161; full-time first year --; part-time 45 Master's by dept. 14
Fellowship (1–2) 5000–10000 10 Waived Ph. D. (80/83) CS 12. Total: 12
Teaching Assistantship (40) 4500–8000 10 Waived 20 Teaching
Research Assistantship (12) 4500–8000 10 Waived 20 Research
Graduate Assistantship (25) 5000–6000 10 Waived 20 Grading, other assignments

MATHEMATICS

STATISTICS

COMPUTATION

GRADUATE PROGRAMS

AT TULANE

DEGREE PROGRAMS

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.

FINANCIAL AID

The teaching assistantship consists of a stipend of $5000–$5200 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.

GRADUATE FACULTY AND RESEARCH AREAS

Algebra: A. Clifford (Caltech), J. Dauns (MIT), L. Fuchs (Budapest), P. Grillet (Paris).

Numerical Computation: R. Miller (Berkeley), G. Sod (Berkeley).


Relativity: F. Tipler (Maryland).


Topological Algebra: M. Dupra (Panayiavania), H. Kosaki (UCLA), J. Llukenkon (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 Al Vitter
Chairman, Graduate Studies Committee
Mathematics Department
Tulane University
New Orleans, Louisiana 70118

866
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<td>Duane Blumberg,</td>
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<td>M.S. and Ph.D. in Applied Mathematics</td>
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<td>Teaching Assistantships: $6000–7000 with remission of fees.</td>
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<td>Apply to: Dr. N. P. Bhatia, Director</td>
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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; Meteorology; 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. This year the topic is topology.

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
University of Maryland, College Park 20742

MATHEMATICS
John E. Osborn, Chairman
Applications due: 5/1/84
Graduate Students: full-time 124, full-time first year 37; part-time 68
Bachelor's by inst. 5497
Bachelor's by dept. 28
Master's by dept. 12
Ph. D. (80/83) ANT 4, AFA 6,
Research GT 5, L 2, P 1, S 1, AM 10.

Fellowship (2) 8580 12
Teaching Assistantship (105) 6000-7150 10
Research Assistantship (2) 7150 10
Scholarship (1) 3000-5000 10

*Resident: $1600; nonresident: $2600.

Massachusetts

Boston College, Chestnut Hill 02167

MATHEMATICS
Paul R. Thie, Chairman
Applications due: 3/15/84
Graduate Students: full-time 3134
Bachelor's by inst. 2134
Bachelor's by dept. 16
Master's by dept. 8
Ph. D. (80/83) ANT 1, S 3, CS 4, AM 1, Other 1. Total: 10

Teaching Fellowship (10) 5600-6000 9
Teaching Fellowship (24) 5750 9

Boston University, Boston 02215

MATHEMATICS
R. Devaney, Chairman
Applications due: 2/1/84
Graduate Students: full-time 124, full-time first year 37; part-time 68
Bachelor's by inst. 3167
Bachelor's by dept. 29
Master's by dept. 6
Ph. D. (80/83) AFA 1, S 3, CS 4, AM 1, Other 1. Total: 10

Fellowship (1) 7600-7900
Teaching Fellowship (27) 5750 9

Brandeis University, Waltham 02254

MATHEMATICS
David Eisenbud, Chairman
Applications due: 2/15/84
Graduate Students: full-time 124, full-time first year 37; part-time 68
Bachelor's by inst. 700
Bachelor's by dept. 8
Master's by dept. 6
Ph. D. (80/83) ANT 8, AFA 1, GT 4. Total: 13

Teaching Assistantship (10) 6000-6800 9

Harvard University, Cambridge 02138

MATHEMATICS
David Mumford, Chairman
Applications due: 1/1/84
Graduate Students: full-time 124, full-time first year 37; part-time 68
Bachelor's by inst. 1640
Bachelor's by dept. 18
Master's by dept. 10
Ph. D. (80/83) ANT 11, AFA 5, AM 9, ME 2, Other 2. Total: 55

Fellowship (Varies) Varies by need **
Teaching Fellowship (17) 5610* 9 ** ***
Research Assistantship (16) 2800-7000 9 **

**Varies; in 1983-1984 between $1130 and $9340 depending on year.
***3 in class plus office hours, preparation.

STATISTICS
Arthur P. Dempster, Chairman
Applications due: 1/1/84
Graduate Students: full-time 124, full-time first year 37; part-time 68
Bachelor's by inst. 1640
Bachelor's by dept. 1
Ph. D. (80/83) S T. Total: 7

Teaching Fellowship (11) 3300-3740* 9 **
Research Assistantship (10) 3464/yr.*
Scholarship (4) *** 9 9035*

**4 contact hours, 1 hour teaching, 3 hours grading.
***According to need.

Massachusetts Institute of Technology, Cambridge 02139

MATHEMATICS
Daniel J. Kleitman, Chairman
Applications due: 1/16/84
Graduate Students: full-time 124, full-time first year 37; part-time 68
Bachelor's by inst. 1135
Bachelor's by dept. 56
Master's by dept. 5
Ph. D. (80/83) ANT 11, AFA 5, GT 15, P 5, S 2, CS 3, OR 1, AM 9, ME 2, Other 2. Total: 55

Fellowship (15) 5175-7585 9
Teaching Assistantship (47) 6615 9
Research Assistantship (9) 5715 9
Scholarship (1) 5960

*Scholarship.
**6 teaching, 16 grading papers.
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<td>Richard C. Larson and Jeremy F. Shapiro, Codirectors</td>
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Northeastern University, Boston 02115
MATHEMATICS
Applications due: 3/15/84
M. E. Gilmore, Chairman
Faculty 53; Published 34
Graduate Students: full-time 28; full-time first year 11; part-time 25
Teaching Fellowship (31) 5750
Tuitionship (5) 4-8 Grading, workshop
*3 hours teaching, 3 conference hours.
Ph. D. (80/83) AFA 2, GT 2,

Tufts University, Medford 02155
MATHEMATICS
Applications due: 3/15/84
Richard Weiss, Chairman
Faculty 22; Published 15
Graduate Students: full-time 7; full-time first year 2; part-time 1
Teaching Assistantship (5) * 9 ** 3 Teaching
Scholarship (3) * 9 **
*Still undetermined, at least $4600.
**An appropriate tuition scholarship is provided with each teaching assistantship.

University of Lowell, Lowell 01854
MATHEMATICS
Applications due: 4/1/84
Alan Doerr, Chairperson
Faculty 50; Published 30
Graduate Students: full-time 67; full-time first year 30; part-time 294
Teaching Assistantship (12) 5000
6-12
Ph. D. (80/83) ANT 3, AFA 5, GT 1, OR 1, AM 5, Other 1. Total 17

University of Massachusetts at Boston 02125
MATHEMATICAL SCIENCES
Applications due: 4/15/84
Colin Godfrey, Chair
Faculty 31; Published 15
Graduate Students: full-time 8; full-time first year 6; part-time 7
Teaching Assistantship (5) 4000
9 Waived *
*3 contact hours teaching or 20 hours per week grading.

Michigan
Central Michigan University, Mt. Pleasant 48859
MATHEMATICS
Applications due: 4/1/84
Richard J. Fleming, Chairman
Faculty 36; Published 15
Graduate Students: full-time 14; full-time first year 6; part-time 8
Fellowship (12) 4200
9
Teaching Assistantship (10) 5300-6000
9 63.50/cr. hr. 6

Eastern Michigan University, Ypsilanti 48197
MATHEMATICS AND COMPUTER SCIENCE
Applications due: 4/1/84
Hartmut Höft, Acting Head
Faculty 28; Published 5
Graduate Students: full-time 15; full-time first year 6; part-time 40
Graduate Assistantship (1 or 2) 3150-3350
9 * 20 Varies
*Tuition up to and including eight (8) semester hours per full-time appointment for the Fall and Winter semesters will be awarded.
Ph. D. (80/83) ANT 3, AFA 5, GT 1, OR 1, AM 5, Other 1. Total: 16

Michigan State University, East Lansing 48824
MATHEMATICS
Applications due: 4/1/84
Kyung Whan Kwun, Chairman
Faculty 87; Published 63
Graduate Students: full-time 85; full-time first year 32; part-time 0
Teaching Assistantship (125) 7200-7600
9 1600 4-8
Scholarship (2) 7500
9
Ph. D. (80/83) ANT 3, AFA 5,
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<td>V. Mandrekar, Chairman</td>
<td>Graduate Students: full-time 50; full-time first year 12; part-time 6</td>
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Michigan Technological University, Houghton 49931

MATHEMATICAL AND COMPUTER SCIENCES

Richard Millman, Head

Faculty 47; Published 22

Graduate Students: full-time 14; full-time first year 6; part-time 35

Teaching Assistantship (15-20) 5950

9 5-8 Teaching

Oakland University, Rochester 48063

MATHEMATICAL SCIENCES

Donald E. G. Malm, Chairman

Faculty 26; Published 22

Graduate Students: full-time 1; full-time first year 0; part-time 35

Teaching Assistantship (3) 6000-6500

9 20 Teaching

University of Michigan, Ann Arbor 48109

BIOSTATISTICS

Richard G. Cornell, Chairman

Faculty 9; Published 9

Graduate Students: full-time 2; full-time first year 0; part-time 35

Teaching Fellowship (15) 3312-6624

9 1494 10-20 Grading, teaching Ph. D. (80/83) S 2. Total: 2

Wayne State University, Detroit 48202

COMPUTER SCIENCE

B. P. Zeigler, Acting Chairman

Faculty 15; Published 13

Graduate Students: full-time 120; full-time first year 40; part-time 25

Teaching Assistantship (35) 17000*

9 20 Lecture Ph. D. (80/83) CS 3. Total: 3

Research Assistantship (5) 7850-27000

9 20 Research

Scholarship (4) 2000

*Tuition waivable.

MATHEMATICS

Togo Nishiura, Chairman

Faculty 50; Published 40

Graduate Students: full-time 29; full-time first year 8; part-time 25

Fellowship (1) 4500**

9 *** Master's by dept. 3

Teaching Assistantship (22) 4600-5000**

9 *** 6 Teaching Ph. D. (80/83) GT 1, P 1, S 1, AM 1, Other 1. Total: 5

*Includes tuition.

**Plus hospitalization and in some cases, housing.

***Application fee $20-$30; tuition waived.
Western Michigan University, Kalamazoo 49008

COMPUTER SCIENCE
Kenneth Williams, Chairperson

Fellowship (Varies) 4000 8
Teaching Assistantship (16) 5000 8 4 Teaching, grading, consulting
Research Assistantship (Varies) 4000-5000 8 20 Varies

MATHMATICS
James H. Powell, Chairperson

Fellowship (5) 6000-7000 9 61.50/hr. 6
Teaching Assistantship (25) 5000 8 61.50/hr. 6
Internships** 5000 8 61.50/hr. 20
Spring or Summer Teaching Assistantship (20) 1000-1250 2 61.50/hr. 6

*Fellowships: 2/15/84; assistantships: 3/1/84.
**Varies.

Minnesota

Mankato State University, Mankato 56001

MATHEMATICS, ASTRONOMY AND STATISTICS
C. D. Alders, Chairperson

Teaching Assistantship (15) 1000-6000 9 10-15 Teaching

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 fifty-two full-time faculty, and a favorable student/faculty ratio allows for individual attention.

Financial support includes teaching assistantships with stipends in the range $4600-$6550 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
Department of Mathematics
Wayne State University
Detroit, Michigan 48202

Wayne State University is an Equal Opportunity / Affirmative Action Employer.
TYPE OF ASSISTANCE
(number anticipated 1984-1985)

Moorhead State University, Moorhead 56560

COMPUTER SCIENCE
Martin O. Holoien, Chairman
Graduate Students: full-time 6; full-time first year 2; part-time 5
Teaching Assistantship (9) 4000 9 1190 20 Teaching, grading

University of Minnesota, Minneapolis 55455

BIOMETRY
M. Kjelsberg, Head
Graduate Students: full-time 20; full-time first year 10; part-time 15
Fellowship (3) 5292 12 71/cr. 20 Teaching
Teaching Assistantship (5) 6840 9 71/cr. 20 Research
Research Assistantship (4) 6840 9 71/cr. 20 Research

MATHEMATICS (Ad on p. 874)
Willard Miller, Jr., Head
Graduate Students: full-time 118; full-time first year 45; part-time -
Fellowship (1-3) 6000-6500* 9 ** 2* Teaching
Teaching Fellowship (1-6) 9840-9900* 9 ** 2* Teaching
Teaching Assistantship (85) 8200-9000* 9 ** 4-5* Teaching
Research Assistantship (4) 4100-4500* 9 ** 2-3 Research
Summer Teaching
Assistantship (32) 1995-2206* 1.5 ** 10* Research
Summer Fellowship 1700-1800* 2 ** Research

*Please write for current data.
**$71 per credit, $81 fees, and $53 insurance per quarter.

WMU is an Equal Opportunity/Affirmative Action Institution.

The Mathematics Department at Western Michigan University consists of 35 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 Teaching of Mathematics. 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

In 1984 the WMU Math Department will host, for the fifth time, an International Graph Theory Conference. The Department is internationally acclaimed in the field of Graph Theory.

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

Graduate Teaching Assistantships, which pay $2,500/semester for 1983-84, consist of teaching 5 to 6 credit hours of freshman-level mathematics courses. Doctoral Fellowships of $3,000/semester are also available. Additional $1,250 assistantships are available for teaching either 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. James H. Powell, Chair
Department of Mathematics
Western Michigan University
Kalamazoo, MI 49008

WMU is an Equal Opportunity/Affirmative Action Institution.

WMEN MICHIGAN UNIVERSITY
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 of Mathematics and Its Applications commenced operations at the University of Minnesota in September 1982. There are extensive opportunities for interaction with various engineering, science, and social science departments. Faculty-student ratio is 3:4; there is an excellent library in the mathematics building and office space is provided. Fellowships and Teaching Assistantships are available. Write to:

Professor Robert Hardt
Department of Mathematics
127 Vincent Hall, 206 Church Street S.E.
University of Minnesota
Minneapolis, Minnesota 55455

1984 Mathematical Sciences Professional Directory

This directory, published annually, lists key personnel—officers and committee members—of over thirty professional mathematical organizations and of a selected group of government agencies, editors of over 100 journals, over 3,000 heads of academic departments in the mathematical sciences, and heads of mathematical units in nonacademic organizations. Information includes current addresses (including telephone numbers in many cases), terms of office, and other pertinent information for organizations represented.

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  Canadian Mathematical Society, Société Mathématique du Canada
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  IEEE Computer Society
  IEEE Control Systems Society
  IEEE Information Theory Group
  Industrial Mathematics Society
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**Mississippi**

**Jackson State University, Jackson 39217**

MATHMATICS | Applications due: 4/1/84 | Bachelor's by inst. 800 | Graduate Students: full-time 10; full-time first year 5; part-time 30 | Master's by dept. 5 |
| Roosevelt Gentry, Head | Faculty 19; Published 8 |
| Teaching Fellowship (9) | 2665 | 12 | 6* | Teaching |
| Teaching Assistantship (1) | 2665 | 12 | 6* | Teaching |
| Research Assistantship (3) | 4500 | 12 |

**Mississippi State University, Mississippi State 39762**

MATHMATICS AND STATISTICS | Applications due: 4/15/84 | Bachelor's by inst. 1594 | Graduate Students: full-time 14; full-time first year 8; part-time 2 | Master's by dept. 2 |
| J. L. Solomon, Head | Faculty 36; Published 16 |
| Teaching Assistantship (15) | 4500-6500 | 9 | 1150 | 6* |

**University of Southern Mississippi, Hattiesburg 39406**

MATHMATICS | Applications due: 3/15/84 | Bachelor's by inst. 2113 | Graduate Students: full-time 6; full-time first year 3; part-time 6 | Master's by dept. 3 |
| Steve Doblin, Chairman | Faculty 23; Published 10 |
| Teaching Assistantship (6-9) | 4700-6700 | 9 | 1040 | 20 | Grading, teaching |
| Part-time Instructorship* | 900-3000 | 9 | 1040** | 10-20 | Teaching |
| Tutor/Teaching Assistantship* | 2.85/hr.-5/hr. | 9 | 1040** | Grading, teaching |
| *Several. |

**Missouri**

**Central Missouri State University, Warrensburg 64093**

MATHMATICS AND COMPUTER SCIENCE | Applications due: 5/1/84 | Bachelor's by inst. 1526 | Graduate Students: full-time 4; full-time first year 3; part-time 2 | Master's by dept. 3 |
| Edward Davenport, Chair | Faculty 17; Published 4 |
| Teaching Assistantship (4) | 2700-5400 | 9 | 600/yr. | 6-12 | Teaching |

**Saint Louis University, St. Louis 63130**

MATHMATICS AND COMPUTER SCIENCE | Applications due: 4/1/84* | Bachelor's by inst. 750 | Graduate Students: full-time 19; full-time first year 13; part-time 6 | Master's by dept. 4 |
| Raymond Freese, Chair | Faculty 10; Published 5 |
| Teaching Assistantship (10) | 4200 | 9 | ** | 6* | Teaching |
| *Late applications accepted. |
| **6 hours tuition remission each semester. |

**Southeast Missouri State University, Cape Girardeau 63701**

MATHMATICS | Applications due: 3/1/84 | Bachelor's by inst. 1258 | Graduate Students: full-time 5; full-time first year 3; part-time 3 | Master's by dept. 4 |
| Harold Hager, Chairman | Faculty 22; Published 6 |
| Teaching Assistantship (4) | 3150 | 9 | Waived | 6* |

**University of Missouri–Columbia 65211**

STATISTICS | Applications due: 3/1/84 | Bachelor's by inst. 3636 | Graduate Students: full-time 16; full-time first year 6; part-time 9 | Master's by dept. 5 |
<p>| John E. Hewett, Chairperson | Faculty 10; Published 9 |
| Fellowship (1) | 1000 | 9 | 1579 |
| Teaching Assistantship (20) | 6300-6515 | 9 | 1579 | 20 | Teaching |
| Research Assistantship (2) | 7000 | 9 | 1579 | 20 | Research |</p>
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Washington University, St. Louis 63130

COMPUTER SCIENCE

Jerome R. Cox, Jr., Chairman

Research Assistantship (10) 15975*

Scholarship (1) 5500*

Nonteaching Graduate Assistantship (5) 5400*


Washington University, St. Louis 63130

MONTANA STATE UNIVERSITY, BOZEMAN 59717

MATHMATICAL SCIENCES

K. Tiahrt, Head

Fellowship (2) 500

Teaching Assistantship (35) 5900-11000

Research Assistantship (9) 5900-11000

*Plus tuition.

**Teaching, grading, and/or proctoring.

**Grading appointment is optional and carries additional stipend.
University of Montana, Missoula 59812

MATHEMATICAL SCIENCES

Charles A. Bryan, Chairman

Applications due: 4/1/84
Faculty 18; Published 12

Graduate Students: full-time 23; full-time first year 7; part-time 0

Teaching Assistantship (21) 4800-6500* 9 ** 5-6' Teaching

*Includes extra stipend as editorial assistant.

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 of a grant 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 modeling 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
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**Nebraska**

**Kearney State College, Kearney 68849**

MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE

Applications due: 4/1/84

Bachelor's by inst. 954

Bachelor's by dept. 49

Charles G. Pickens, Chairman

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

University of Nebraska–Lincoln 68858

COMPUTER SCIENCE

Applications due: 7/15/84

Bachelor's by inst. 3000

Bachelor's by dept. 35

Roy F. Keller, Chairman

Graduate Students: full-time 33; full-time first year 11; part-time 43

Teaching Assistantship (25)

Teaching Assistantship (2)

Ph. D. (80/83) CS 2. Total: 2

University of Nebraska, Omaha 68847

MATHEMATICS AND COMPUTER SCIENCE

Applications due: 3/31/84

Master's by dept. 3

Charles Downey, Chairman

Graduate Students: full-time 5; full-time first year 3; part-time 27

Teaching Assistantship (5)

Ph. D. (80/83) ANT 1, AFA 3, CS 1, OR 1. Total: 6

University of Nevada, Reno 89557

MATHEMATICS

Applications due: 3/1/84

Bachelor's by inst. 1138

Bachelor's by dept. 46

R. N. Tompson, Chairman

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

Teaching Assistantship (4)

Ph. D. (80/83) ANT 1, ME 2. Total: 3

New Hampshire

Dartmouth College, Hanover 03755

COMPUTER AND INFORMATION SCIENCE

Applications due: 3/1/84

Master's by dept. 15

Thomas E. Kurtz, Chairman

Graduate Students: full-time 22; full-time first year 22; part-time 17

Fellowship (5)

Teaching Assistantship (10)

Research Assistantship (2)

Scholarship (3)

Ph. D. (80/83) ANT 1, ME 2. Total: 3

University of New Hampshire, Durham 03824

COMPUTER SCIENCE

Applications due: 2/15/84

Bachelor's by inst. 2021

Bachelor's by dept. 37

R. Daniel Bergeron, Chairman

Graduate Students: full-time 21; full-time first year 4; part-time 17

Teaching Assistantship (10)

Research Assistantship (2)

Scholarship (3)

Bachelor's by dept. 2

Ph. D. (80/83) ANT 1, ME 2. Total: 3

New Jersey

Montclair State College, Upper Montclair 07049

MATHEMATICS AND COMPUTER SCIENCE

Applications due: 2/15/84

Bachelor's by inst. 2360

Bachelor's by dept. 110

Kenneth C. Wolff, Chairperson

Graduate Students: full-time 9; full-time first year 8; part-time 0

Teaching Assistantship (9)

Teaching Assistantship (9)

Graduate Associateship (1)

Total: 3
**Princeton University, Princeton 08544**

**MATHMATICS**  
Applications due: 1/10/84  
Bachelor's by inst. 850  
Bachelor's by dept. 13  
Master's by dept. 14

Wu-chung Hsiang, Chairman  
Faculty 41; Published 33  
Graduate Students: full-time 53; full-time first year 16; part-time -

**Fellowship (26)**  
6900  
9-12  
Ph. D. (80/83) ANT 10, AFA 8,  
Total: 27

**Teaching Assistantship (33)**  
5800-5900  
10  
20  
GT 9. Total: 27

**Research Assistantship (34)**  
5100-5600  
10  
*Most appointments are 1/2 teaching assistantship, 1/2 research assistantship.

**Rutgers University, New Brunswick 08903**

**COMPUTER SCIENCE**  
Applications due: 3/1/84  
Bachelor's by inst. 4987  
Bachelor's by dept. 180  
Master's by dept. 51

Saul Amarel, Chairman  
Faculty 29.5; Published 20  
Graduate Students: full-time 68; full-time first year 29; part-time 181

**Teaching Assistantship (55–60)**  
6086-6350  
9  
127  
15  
Grading, teaching

**Research Assistantship (8)**  
6086-6350  
9  
127  
15  
Research

**MATHMATICS**  
Applications due: 3/1/84  
Bachelor's by inst. 4987  
Bachelor's by dept. 117  
Master's by dept. 6

Charles C. Sims, Chairman  
Faculty 87; Published 18  
Graduate Students: full-time 68; full-time first year 19; part-time 40

**Fellowship (8)**  
5000  
9  
220  
Ph. D. (80/83) ANT 5, AFA 6,  
Total: 20

**Teaching Assistantship (39)**  
6086-6386  
9  
220  
12  
Teaching

**Research Assistantship (6)**  
6086-6386  
9  
220  
14  
Teaching

**STATISTICS**  
Applications due: 3/1/84  
Bachelor's by inst. 4987  
Bachelor's by dept. 9  
Master's by dept. 13

William E. Strawderman, Chairman  
Faculty 20; Published 19  
Graduate Students: full-time 41; full-time first year 26; part-time 52

**Fellowship (6)**  
5000  
9  
2185*  
Ph. D. (80/83) ST. Total: 7

**Teaching Assistantship (7)**  
6086-6386  
9  
2185*  
15  
Teaching

**Research Assistantship (3)**  
6086-6386  
9  
2185*  
15  
Research

*Tuition is included in all fellowships, teaching assistantships and research assistantships. Student pays student fee of about $97 per year.

**Seton Hall University, South Orange 07079**

**MATHMATICS**  
Applications due: Open  
Bachelor's by inst. 1120  
Bachelor's by dept. 20  
Master's by dept. 1

John J. Saccoman, Chairman  
Faculty 21; Published 7  
Graduate Students: full-time 3; full-time first year 2; part-time 4

**Teaching Assistantship (4)**  
3210-3425  
9  
6*

**New Mexico**

**Eastern New Mexico University, Portales 88130**

**MATHEMATICAL SCIENCES**  
Applications due: 5/1/84  
Bachelor's by dept. 20  
Master's by dept. 6

Thurman Elder, Chairman  
Faculty 12; Published 8  
Graduate Students: full-time 6; full-time first year 5; part-time 0

**Teaching Assistantship (7)**  
4500-5500  
9  
700  
6*

---

**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
New Mexico Highlands University, Las Vegas 87701

SCIENCE AND MATHEMATICS

J. A. Schlosser, Chairman

Applications due: 5/31/84

Graduate Students: full-time 3; full-time first year 1; part-time 0

Teaching Assistantship (3) 3900 9 Waived 15

New Mexico Institute of Mining and Technology, Socorro 87801

COMPUTER SCIENCE

Allan M. Stavely, Chairman

Applications due: 3/15/84

Graduate Students: full-time 33; full-time first year 11; part-time 0

Teaching Assistantship (4) 6000-6400 9 324 20 Grading, teaching
Research Assistantship (3) 5900-6500 9 324 20 Research
Award (Prize) (1) 500

New Mexico State University, Las Cruces 88003

COMPUTER SCIENCE

Mark B. Wells, Chairman

Applications due: 5/1/84

Graduate Students: full-time 39; full-time first year 33; part-time 24

Teaching Assistantship (11) 5770 9 20
Research Assistantship (3) 5910 9 20

MATHMATICAL SCIENCES

Carol L. Walker, Head

Applications due: 10/10/84

Graduate Students: full-time 29; full-time first year 13; part-time 5

Fellowship (2-4) 2885*
Teaching Assistantship (25) 5770-6040 9 20 Teaching

*In addition to assistantship.

University of New Mexico, Albuquerque 87106

MATHEMATICS AND STATISTICS

David A. Sanchez, Chairman

Applications due: 3/1/84

Graduate Students: full-time 47; full-time first year 47; part-time 24

Teaching Assistantship (22) 5100-5400 9 Waived 5'
Title IV HEW (2)' 4500 12

*Grant graduate professional fellowing program (minority/women).

NEW MEXICO STATE UNIVERSITY

- **Areas of Emphasis for M.S.**

- **Research Interests and Ph.D. Thesis Direction.**

- **Active Program of Colloquia and Research Conferences.**

- **Teaching Assistantships and Part-time Job Opportunities Available.**

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

An Equal Employment Opportunity/Affirmative Action Employer
New York

Adelphi University, Garden City 11530
MATHMATICS AND COMPUTER SCIENCE
Applications due: 3/15/84
J. P. E. Hodgson, Chairman
Faculty 17; Published 13
Graduate Students: full-time 12; full-time first year 3; part-time 54
Senior Teaching Fellowship (2) 7600 9 20 Ph. D. (80/83) AM 4, Other 1.
Teaching Assistantship (9) 3000-4500 9 20 Total: 5
Scholarship (5) 9
Tuition Scholarship 50%–54 credits per year

City University of New York, Bernard M. Baruch College, New York 10010
STATISTICS AND COMPUTER INFORMATION SYSTEMS
Applications due: 3/15/84
Lloyd Rosenberg, Chairman
Faculty 40; Published 25
Graduate Students: full-time 40; full-time first year 15; part-time 200
Research Assistantship (20) 5000 9 2000 15 Research

City University of New York, Brooklyn College 11210
COMPUTER AND INFORMATION SCIENCE
Applications due: *
F. S. Beckman, Chairman
Faculty 20; Published 15
Graduate Students: full-time 10; full-time first year 5; part-time 150
Teaching Fellowship (4) 4000-8000 9 1500-2000 3-8* Teaching
Teaching Assistantship (4) 4000-8000 9 1500-2000 10-20 Research
*2 months before term starts.

City University of New York, City College, New York 10031
MATHMATICS
Applications due: 3/15/84
John Landolfi, Chairman
Faculty 45; Published 18
Graduate Students: full-time 2; full-time first year 0; part-time 0
Teaching Assistantship (4) 3932.40–8065.40 9 * 8 Teaching
*Resident: $1884.

Clarkson College of Technology, Potsdam 13676
MATHMATICS AND COMPUTER SCIENCE (Ad on p. 882)
Applications due: 4/1/84
Mark J. Ablowitz, Chairman
Faculty 22; Published 20
Graduate Students: full-time 26; full-time first year 11; part-time 2
Teaching Assistantship (15) 7500-8000 12 12 Grading, teaching Ph. D. (80/83) AFA 2, AFA 1,
Research Assistantship (3) 7500-8000 12 12 Grading, research AM 4, Other 3. Total: 10

Columbia University, New York 10027
MATHMATICS
Applications due: 3/15/84*
S. Eilenberg, Chairman
Faculty 78; Published 26
Graduate Students: full-time 23; full-time first year 11; part-time 14
Fellowship (30)** *** 9 **** Ph. D. (80/83) ANT 6, AFA 7, GT 6. Total: 19
*Late applications considered.
**All supported students are regarded as Fellows. However, of these Fellows, approximately 5 per academic year receive their stipends through the National Science Foundation in the form of Graduate Research Assistantships. Students are required to serve as Teaching Assistants for the first two of their four years of support.
***Not known at this time.
****All graduate students are currently given four years of support with tuition exemption.

STATISTICS
Applications due: 2/1/84
Burton H. Singer, Chairman
Faculty 7; Published 7
Graduate Students: full-time 17; full-time first year 4; part-time –
Teaching Fellowship (13) 6000–8000 9–12 Exempted 10 Grading, teaching Ph. D. (80/83) S 4. Total: 4
Graduate Research Assistantship (3) 8000 12 Exempted 27 Research

881
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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>dollars</td>
<td>months</td>
<td>type of service</td>
<td>1982-1983)</td>
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<td>9</td>
<td>15 Research</td>
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<td>9</td>
<td>15 Research</td>
<td>Ph. D. (80/83) AM 18. Total: 18</td>
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<td>900</td>
<td>9</td>
<td>15 Research</td>
<td>Ph. D. (80/83) CS 17. Total: 17</td>
</tr>
</tbody>
</table>

**Notes:**
*Fellowships: 1/15/84; assistantships: 2/15/84.
**Interdisciplinary program with 50 part-time members.

---

**Clarkson Graduate Study in Mathematics and Computer Science**

Clarkson offers the M.S. and Ph.D. in Mathematics with individual attention by an active research faculty in an attractive northern New York location. A broad mathematical curriculum is offered with emphasis on applied mathematics and computer science.


A number of research and teaching assistantships, and tuition scholarships are available. Our usual stipend is $7,500 per annum (plus tuition), but special assistantships up to $10,000 (plus tuition) are also available for highly qualified applicants.

**Applications received by February 15, 1984 will be given early consideration.**

Write to: R.J. Nunge, Dean Graduate School, Clarkson College, Potsdam, New York 13676
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<tr>
<th>TYPE OF ASSISTANCE</th>
<th>(number anticipated 1984-1985)</th>
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<th>SERVICE REQUIRED</th>
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<td>hours per week</td>
<td>type of service</td>
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<td>Research</td>
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<td>5500-5700</td>
<td>5500-5700</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

*46 M.S./Ph.D.; 29 M.Eng., one year program.
**M.S./Ph.D.

Fordham University, Bronx 10458
MATHEMATICS*  
Applications due: 1/31/84  
Peter M. Curran, Chairman  
Faculty 14; Published 12  
Graduate Students: full-time 3; full-time first year 5; part-time 5  
Teaching Assistantship (2)  
Graduate Assistantship (6)  

*The figures below assume that an expected master's program in Computer Science will be in operation.

Hofstra University, Hempstead 11550
MATHEMATICS  
Applications due: 2/1/84  
Edward G. Ostling, Chairman  
Faculty 17; Published 15  
Graduate Students: full-time 24; full-time first year 55; part-time 260  
Teaching Assistantship (1)  
Academic Assistantship (4)  

New York University, Courant Institute of Mathematical Sciences, New York 10012
COMPUTER SCIENCE  
Applications due: 1/16/84  
S. R. S. Varadhan, Director, Courant Institute  
Faculty 19; Published 19  
Graduate Students: full-time 115; full-time first year 55; part-time 260  
Teaching Assistantship (20)  
Research Assistantship (20)  

<table>
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<tr>
<th>OPERATIONS RESEARCH</th>
<th>Application due: 1/15/84</th>
<th>Bachelor's by dept. 1984-1985</th>
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<td>1950-2150</td>
<td>Bachelor's by inst. 3152</td>
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<td>Teaching Fellowship (20)</td>
<td>1950-2150</td>
<td>Bachelor's by dept. 73</td>
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<td>Teaching Assistantship (25)</td>
<td>1950-2150</td>
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<td>Research Assistantship (30)</td>
<td>1950-2150</td>
<td>Ph. D. (80/83) OR 17. Total: 17</td>
</tr>
</tbody>
</table>

Located in suburban Long Island. Small classes with dedicated faculty. DEC VAX 782 and UNIVAC computers. Fellowships available for outstanding students. Libraries with more than one-million volumes. Recreational facilities include indoor Olympic-sized pool.

For information, call 516-560-5570 or write Department of Mathematics HOFSTRA UNIVERSITY HEMPSTEAD, NEW YORK 11550

Hofstra University is an equal educational opportunity institution.
Polytechnic Institute of New York, Brooklyn 11201

**MATHEMATICS**

Harry Hochstadt, Chairman

Applications due: 3/1/84

Graduate Students: full-time 4; full-time first year 2; part-time 30

Teaching Fellowship (5)

<table>
<thead>
<tr>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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<tr>
<td>3000-3250</td>
<td>9</td>
<td>4 Teaching</td>
<td>Ph. D. (80/83) AFA 5</td>
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</tbody>
</table>

State University College at Brockport 14420

**MATHEMATICS AND COMPUTER SCIENCE**

Kazumi Nakano, Chairperson

Applications due: 5/15/84

Graduate Students: full-time 4; full-time first year 2; part-time 36

Teaching Assistantship (3)

<table>
<thead>
<tr>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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<tbody>
<tr>
<td>3650</td>
<td>9</td>
<td>125 15 Tutoring, grading</td>
<td>Master's by dept.</td>
</tr>
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</table>

State University College at Cortland 13077

**MATHEMATICS**

Applications due: 2/15/84

Thomas O’Laughlin, Chairman

Faculty 20; Published 11

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

Teaching Assistantship (1–2)

<table>
<thead>
<tr>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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<tbody>
<tr>
<td>4000-4500</td>
<td>9</td>
<td>20 Teaching, grading</td>
<td>Bachelor's by dept.</td>
</tr>
</tbody>
</table>

State University of New York at Albany 12222

**COMPUTER SCIENCE**

Applications due: 3/1/84

Richard E. Stearns, Chair

Faculty 12; Published 9

Graduate Students: full-time 40; full-time first year 30; part-time 30

Teaching Assistantship (22)

<table>
<thead>
<tr>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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<tbody>
<tr>
<td>5000–5000</td>
<td>9</td>
<td>10 cr. waiver 20 Grading, teaching</td>
<td>Master's by dept.</td>
</tr>
</tbody>
</table>

State University of New York at Stony Brook 11794

**APPLIED MATHEMATICS AND STATISTICS**

Alan Tucker, Chairman

Applications due: Open

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

Fellowship (2)

<table>
<thead>
<tr>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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<tbody>
<tr>
<td>6000</td>
<td>9</td>
<td>Waived</td>
<td>Ph. D. (80/83) S 3, OR 3</td>
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</tbody>
</table>

State University of New York at Buffalo 14214

**MATHEMATICS**

Lewis A. Coburn, Chairman

Faculty 40; Published 40

Graduate Students: full-time 57; full-time first year 18; part-time 8

Fellowship (1–3)

<table>
<thead>
<tr>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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</thead>
<tbody>
<tr>
<td>5100–8000</td>
<td>9</td>
<td>171.50</td>
<td>Bachelor's by dept.</td>
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</tbody>
</table>

**STATISTICS**

Applications due: 3/1/84

Peter Enis, Chairman

Faculty 6; Published 6

Graduate Students: full-time 17; full-time first year 8; part-time 1

Teaching Assistantship (12)

<table>
<thead>
<tr>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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</thead>
<tbody>
<tr>
<td>5076–7298</td>
<td>9</td>
<td>35 10-15 Grading, teaching</td>
<td>Bachelor's by dept.</td>
</tr>
</tbody>
</table>

State University of New York at Buffalo 14226

**COMPUTER SCIENCE**

Applications due: 3/1/84

P. J. Eberlein, Chairman

Faculty 10; Published 8

Graduate Students: full-time 114; full-time first year 51; part-time 18

Fellowship (2)

<table>
<thead>
<tr>
<th>Stipend</th>
<th>Fees</th>
<th>Service Required</th>
<th>Degrees Awarded</th>
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<tbody>
<tr>
<td>6000</td>
<td>9</td>
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<td>Ph. D. (80/83) CS 8</td>
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**Research Assistantship (8)**

<table>
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<th>Stipend</th>
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<th>Service Required</th>
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<td>5400–7500</td>
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<td>Master's by dept.</td>
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**Tuition Waiver (10)**

<table>
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<th>Fees</th>
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<th>Degrees Awarded</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fellowships:** 1/16/84; assistantships: 3/15/84.

*For first round of offers and fellowships.*
**Syracuse University, Syracuse 13210**

**COMPUTER AND INFORMATION SCIENCE**

- Applications due: 2/1/84
- Bachelor's by inst. 2537

**Ronald G. Douglas, Chairman**

- Graduate Students: full-time 50; full-time first year 14; part-time 30
- Master's by dept. 8

| Fellowship (2-4) | 6000–7000 | 9 | Waived | 5 | Teaching |
| Fellowship (3) | 5900 | 9 | Ph. D. (80/83) CS 2. Total: 2 |
| Teaching Assistantship (10) | 6100–6500 | 9 |
| Research Assistantship (15) | 6000–6500 | 15 | Research |

**Mathematics**

- Applications due: 2/15/84
- Bachelor's by inst. 1130

**Sanford L. Segal, Chairman**

- Graduate Students: full-time 35; full-time first year 10; part-time 4
- Master's by dept. 3

| Teaching Fellowship (8) | 6000–8000 | 9–12 | 3–4 | Assisting |
| Research Assistantship (17) | 5000 | 9 | Ph. D. (80/83) CS 3, AFA 3, 11 |

**Statistics**

- Applications due: 2/15/84
- Bachelor's by inst. 1130

**K. Ruben Gabriel, Chairman**

- Graduate Students: full-time 15; full-time first year 4; part-time 2
- Master's by dept. 10

| Fellowship (13) | 2800–3800 | 9 | * | Fellow |
| Teaching Assistantship (12) | 2400 | 9 | * | 15 | Teaching |
| Research Assistantship (3) | 2400 | 9 | * | 15 | Research |

*Tuition waiver is usually granted for full-time students.

---

**University of Rochester, Rochester 14627**

**COMPUTER SCIENCE**

- Applications due: 3/1/84
- Bachelor's by inst. 1130

**Joel I. Seifer, Chairman**

- Faculty 11; Published 11
- Master's by dept. 4

| Fellowship (18) | 6000–6500 | 15 | Grading, research |
| Research Assistantship (15) | 6000–6500 | 15 |

**Mathematics**

- Applications due: 2/15/84
- Bachelor's by inst. 1130

**Sanford L. Segal, Chairman**

- Faculty 24; Published 21
- Master's by dept. 3

| Teaching Fellowship (8) | 6000–8000 | 9–12 | 3–4 | Assisting |
| Research Assistantship (17) | 5000 | 9 | Ph. D. (80/83) CS 3, AFA 3, 11 |

**Statistics**

- Applications due: 2/15/84
- Bachelor's by inst. 1130

**K. Ruben Gabriel, Chairman**

- Faculty 7; Published 6
- Master's by dept. 17

| Fellowship (13) | 2800–3800 | 9 | * | Fellow |
| Teaching Assistantship (12) | 2400 | 9 | * | 15 | Teaching |
| Research Assistantship (3) | 2400 | 9 | * | 15 | Research |

*Tuition waiver is usually granted for full-time students.

---

**North Carolina**

**Appalachian State University, Boone 28608**

**Mathematical Sciences**

- Applications due: 4/1/84
- Bachelor's by inst. 1200

**H. William Paul, Chairman**

- Faculty 28; Published 5
- Master's by dept. 6

| Teaching Assistantship (10) | 3000–4200 | 9 | 600 | 10 |

**Duke University, Durham 27701**

**Mathematics**

- Applications due: 2/1/84
- Bachelor's by inst. 1533

**Michael C. Reed, Chairman**

- Faculty 28; Published 19
- Master's by dept. 4

| Teaching Fellowship (9) | 11700–13200 | 9 | 4700 | 4 | Grading, teaching |
| Teaching Assistantship (10) | 12000 | 9 | 4700 | 6 | Grading, teaching |
| Research Assistantship (3) | 8950 | 9 | 1950 | 6 | Research |

**East Carolina University, Greenville 27834**

**Mathematics**

- Applications due: 4/15/84
- Bachelor's by inst. 2646

**Robert L. Bernhardt, Chairman**

- Faculty 36; Published 23
- Master's by dept. 9

| Teaching Fellowship (13) | 3200–6400 | 9 | * | 5–10 | Teaching |
| Computer and Office (Math. Lab. Assistantship) (2) | 3200–3840 | 9 | * | 12.5–15 | ** |

*In-state: $706 per year; out-of-state: $3018 per year; special talent, out-of-state: $706 per year.

**North Carolina**

**Appalachian State University, Boone 28608**

**Mathematical Sciences**

- Applications due: 4/1/84
- Bachelor's by inst. 1200

**H. William Paul, Chairman**

- Faculty 28; Published 5
- Master's by dept. 6

| Teaching Assistantship (10) | 3000–4200 | 9 | 600 | 10 |

**Duke University, Durham 27701**

**Mathematics**

- Applications due: 2/1/84
- Bachelor's by inst. 1533

**Michael C. Reed, Chairman**

- Faculty 28; Published 19
- Master's by dept. 4

| Teaching Fellowship (9) | 11700–13200 | 9 | 4700 | 4 | Grading, teaching |
| Teaching Assistantship (10) | 12000 | 9 | 4700 | 6 | Grading, teaching |
| Research Assistantship (3) | 8950 | 9 | 1950 | 6 | Research |

**East Carolina University, Greenville 27834**

**Mathematics**

- Applications due: 4/15/84
- Bachelor's by inst. 2646

**Robert L. Bernhardt, Chairman**

- Faculty 36; Published 23
- Master's by dept. 9

| Teaching Fellowship (13) | 3200–6400 | 9 | * | 5–10 | Teaching |
| Computer and Office (Math. Lab. Assistantship) (2) | 3200–3840 | 9 | * | 12.5–15 | ** |
GRADUATE STUDY IN MATHEMATICS AT DUKE

The Department of Mathematics of Duke University offers courses and thesis direction leading to the degrees of Master of Arts, Master of Science, 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 William K. Allard
Director of Graduate Studies, Department of Mathematics
Duke University
Durham, North Carolina 27706

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.

N. C. State is located in Raleigh, capital of North Carolina and one of the vertices of the Research Triangle. Cultural, scholastic, and recreational opportunities abound.

Teaching and research assistantships and scholarships are available. Summer support is also possible. For detailed information concerning the Department admission and degree requirements, and financial assistance together with application forms write to:

PROFESSOR RICHARD CHANDLER — Department of Mathematics
North Carolina State University — Raleigh, N. C. 27650
University of North Carolina, Chapel Hill 27514

BIOSTATISTICS
James E. Grizzle, Chairman
Graduate Students: full-time 55; full-time first year 21; part-time 5
Research Assistanship (20) 7067-9346 12 800 20 Research Ph. D. (80/83) Other 44. Total: 4
Traineeship (18) 5292 12

COMPUTER SCIENCE
F. P. Brooks, Jr., Chairman
Graduate Students: full-time 84; full-time first year 28; part-time 27
Fellowship (8) 5000-7500 9 760 5–10 Ph. D. (80/83) CS 9. Total: 9
Teaching Assistantship (25) 7200 9 760 20
Research Assistantship (35) 760 20
Scholarship (1) 10000
MCNC (1) 12000 12

MATHEMATICS
John A. Pfaltzgraff, Chairman
Graduate Students: full-time 44; full-time first year 6; part-time –
Fellowship (3) 5000–7000 9 761.50 Research Ph. D. (80/83) ANT 1, AFA 2, GT 3, Other 3. Total: 9
Teaching Fellowship (2) 7200 9 3 Teaching
Teaching Assistantship (46) 5200–7500 9 4–6 Teaching

OPERATIONS RESEARCH AND SYSTEMS ANALYSIS
George S. Fishman, Chairman
Graduate Students: full-time 20; full-time first year 9; part-time 2
Fellowship (2) 5000–7500 9 Ph. D. (80/83) OR 4. Total: 4
Teaching Assistantship (9) 4900–6200 9
Research Assistantship (3) 4900–6200 9

STATISTICS
Walter L. Smith, Chairman
Graduate Students: full-time 26; full-time first year 6; part-time 4
Fellowship (3) 6000 9 6 Grading Ph. D. (80/83) S 17. Total: 17
Teaching Assistantship (19) 6000 9 700 6–8 Teaching
Research Assistantship (9) 6000 9 700 6–8 Research
Scholarship (1) 6000 9

University of North Carolina at Charlotte 28223

MATHEMATICS AND COMPUTER SCIENCE
B. M. Weinstock, Chairman
Graduate Students: full-time 7; full-time first year 3; part-time –
Teaching Assistantship (6–12) 4725 9 * 6*

*Resident: $648; nonresident: $2436.

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

887
University of North Carolina, Greensboro 27412

MATHEMATICS
Richard B. Sher, Head
Teaching Assistantship (6-10) 3800 9 502* 6'
Teaching Assistantship (2-3) 1000-10200 9 5050 12
Scholarship (4) 5050 9 5050

Winston-Salem

Teaching Assistantship (7) 4000 9 749 3'

North Dakota State University, Fargo 58105

MATHEMATICAL SCIENCES
Warren Shreve, Acting Chairman
Teaching Assistantship (13) 250-500 9 Waived 20 Teaching
Research Assistantship (15) 500 12 Waived 20 Research

University of North Dakota, Grand Forks 58201

MATHEMATICS
Ronald Bzoch, Chairman
Teaching Assistantship (2-3) 4900 9 15 Grading, teaching

Bowling Green

Bowling Green State University, Bowling Green 43403

APPLIED STATISTICS AND OPERATIONS RESEARCH
James A. Sullivan, Chair
Teaching Assistantship (9) 2669-5500 9 238 18

V. K. Rohatgi, Chair
MATHEMATICS AND STATISTICS
Teaching Assistantship (1) 5520 12 Waived 20 Research
Teaching Assistantship (30) 5499-6233 9 320 6'

Case Western Reserve University, Cleveland 44106

BIOMETRY
H. B. Houser, Chairman
Teaching Assistantship (8 or 9) 5400-6000* 9 3-4* 15
Research Assistantship (2) 5400-6000* 9 15

*Plus tuition.
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<th>STIPEND</th>
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<th>SERVICE REQUIRED</th>
<th>DEGREES AWARDED</th>
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<td>1984-1985)</td>
<td>dollars</td>
<td>months</td>
<td>type of service</td>
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**OPERATIONS RESEARCH**

Burton V. Dean, Chairman

Applications due: 4/1/84

Graduate Students: full-time 36; full-time first year 15; part-time 24

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Cleveland State University, Cleveland 44115

MATHEMATICS

Applications due: 9/1/84

Graduate Students: full-time 4; full-time first year 3; part-time 15

| Teaching Assistantship (2) | 4575 | 9 | | Tutoring |

John Carroll University, Cleveland 44118

MATHEMATICS

Applications due: 3/15/84*

| Teaching Assistantship (5) | 3600 | 9 | 20 | ** |

Kent State University, Kent 44242

MATHEMATICAL SCIENCES

Applications due: 3/1/84

Graduate Students: full-time 3; full-time first year 2; part-time 5

| Fellowship (1) | 4000 | 9 | 298 | |
| Teaching Fellowship (7) | 5600 | 9 | 298 | 4-6 | Teaching |
| Teaching Assistantship (20) | 4900 | 9 | 298 | 4-6 | Teaching |
| Research Assistantship (7) | 4900-5600 | 9 | 298 | 20 | Research |

Miami University, Oxford 45056

MATHEMATICS AND STATISTICS

Applications due: 3/15/84

Graduate Students: full-time 25; full-time first year 13; part-time 1

| Teaching Assistantship (24) | 5000 | 9 | 450 | 18 | Teaching, grading |
| Summer Fellowship (24) | 1000 | | | |

Ohio State University, Columbus 43210

COMPUTER AND INFORMATION SCIENCE

Applications due: 2/1/84

Graduate Students: full-time 139; full-time first year 44; part-time 50

| Fellowship (5) | 7200 | 12 | | |
| Teaching Assistantship (80) | 6525-7200 | 9 | 20 | Teaching |
| Research Assistantship (20) | 8700-9600 | 12 | 20 | Research |
| Administrative Assistantship (1) | 8700-9600 | 12 | 20 | Admin. |

**Case Western Reserve University**

The Department of Mathematics and Statistics offers M.S. and Ph.D. degree programs in both mathematics and statistics. Currently, the faculty is quite strong in probability theory and in system and control theory as well as in more traditional areas of mathematics. The Department also offers a master's degree program in applied statistics.

Financial aid in the form of teaching and research assistantships is available. For more information, please write to:

Chairman, Graduate Committee
Department of Mathematics and Statistics
Case Western Reserve University
Cleveland, Ohio 44106
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<th>TYPE OF ASSISTANCE</th>
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<td>Allen Woods, Chairman</td>
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<td>Ph. D. (80/83) S 8. Total: 8</td>
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<td>Ohio University, Athens 45701</td>
<td>7500-8000</td>
<td>12</td>
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<td>D. O. Norris, Chairman</td>
<td>4900-7000</td>
<td>9-12</td>
<td>375</td>
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<td>University of Akron, Akron 44325</td>
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<td>William H. Beyer, Head</td>
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<td>*To be determined.</td>
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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 Sciences 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, 1984, as participants in a special program for Summer Fellows. Financial support for continuing students is available in the form of Fellowships and/or Teaching Associateships carrying stipends ranging from $650 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 J. P. Huneke, Vice Chairman, Department of Mathematics, Ohio State University, Columbus, Ohio 43210
<table>
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<th>University of Cincinnati, Cincinnati</th>
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<td>Herbert Halpern, Head</td>
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<td>John McCloskey, Chairman</td>
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<tr>
<td>Harvey Wolff, Chairman</td>
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<td>Edgar A. Rutter, Jr., Chairman</td>
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<td>Richard L. Burden, Chairman</td>
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<td>Teaching Assistantship (4)</td>
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<td>Teaching Assistantship (60)</td>
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<td>J. Leroy Folks, Head</td>
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<td>Research Assistantship (2)</td>
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<td>Leonard R. Rubin, Acting Chair</td>
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University of Tulsa, Tulsa 74104
MATHEMATICAL AND COMPUTER SCIENCES
William A. Coberly, Chairman
Teaching Assistantship (10) 3800-5200 9 6* Teaching

Oregon

Oregon State University, Corvallis, 97331
MATHMATICS
P. M. Anselone, Acting Chairman
Teaching Assistantship (34) 4840-5650 9 291 12

STATISTICS
G. David Faulkenberry, Chairman
Teaching Assistantship (10) 4400 9 90/term 12-15
Research Assistantship (10) 4400 9-12 90/term 12-20

Portland State University, Portland 97207
MATHEMATICAL SCIENCES
E. A. Enneking, Head
Teaching Assistantship (10) 4104-5994 9 600 15 Grading, teaching

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

M. A., M. S. and Ph.D. in Mathematics

Courses of study 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 $4840 – $5600 plus tuition remission.

For application materials write:
Professor Bent Petersen
Department of Mathematics
Oregon State University, Corvallis, OR 97331

892
University of Oregon, Eugene 97403

MATHEMATICS
C. R. B. Wright, Head
Applications due: 3/1/84
Graduate Students: full-time 63; full-time first year 19; part-time -
Teaching Assistantship (12) 4464-5529 9 300 17 Teaching Ph. D. (80/83) ANT 5, GT 1, S 2, AM 1. Total: 9

Bryn Mawr College, Bryn Mawr 19010

MATHEMATICS
F. Cunningham, Head
Applications due: 2/14/84
Graduate Students: full-time 1; full-time first year --; part-time -
Teaching Assistantship (1) 4000 9 Waived 20

Bucknell University, Lewisburg 17837

MATHEMATICS
David S. Ray, Head
Applications due: 3/1/84
Graduate Students: full-time 1; full-time first year 1; part-time 2
Fellowship (2) 925 9
Teaching Assistantship (5) 3000 9 15 Grading, tutoring
Scholarship (5) 9

Carnegie-Mellon University, Pittsburgh 15213

MATHEMATICS
George J. Fix, Head
Applications due: 3/15/84
Graduate Students: full-time 43; full-time first year 18; part-time 4
Teaching Assistantship (34) 6300 9 4 Ph. D. (80/83) AFA 2, AM 3. Total: 9
Research Assistantship (7) 8400-9360 12 24
STATISTICS
Stephen E. Fienberg, Head
Applications due: Open
Graduate Students: full-time 23; full-time first year 9; part-time 1
Fellowship (5) 5292 12 12 Research Ph. D. (80/83) S 11. Total: 11
Teaching Assistantship (14) 6300 9 12 Grading, teaching
Research Assistantship (8) 6300 9 12 Research

Drexel University, Philadelphia 19104

MATHEMATICS AND COMPUTER SCIENCE
Loren Argabright, Head
Applications due: 3/15/84
Graduate Students: full-time 25; full-time first year 16; part-time 40
Teaching Assistantship (35) 4700-5500 9 Waived 6 Ph. D. (80/83) AFA 2, S 1, AM 3. Total: 5
Research Assistantship (5) 4700-5500 9 Waived 20

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 $4700 to $5500 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

893
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**Indiana University of Pennsylvania, Indiana 15705**

**MATHEMATICS**
- Applications due: 3/15/84
- Bachelor’s by inst. 2421
- Bachelor’s by dept. 30
- Master’s by dept. 5
- Research Assistantship (3) 2705-3500
- Graduate Students: full-time 6; full-time first year 5; part-time 9

**Lehigh University, Bethlehem 18015**

**MATHEMATICS**
- Applications due: 3/31/84
- Bachelor’s by inst. 1050
- Bachelor’s by dept. 13
- Master’s by dept. 3
- Fellowship (3-5) 4300-9000
- Teaching Assistantship (26) 6000-6400
- Graduate Students: full-time 9; full-time first year 15

**Pennsylvania State University, University Park 16802**

**COMPUTER SCIENCE**
- Applications due: 2/15/84
- Bachelor’s by inst. 4500
- Bachelor’s by dept. 219
- Fellowship (2) 5688-6480
- Teaching Assistantship (40) 5688-6480
- Research Assistantship (5-10) 6084-6480
- Graduate Students: full-time 9; full-time first year 28

**Shippensburg State University, Shippensburg 17257**

**MATHEMATICS AND COMPUTER SCIENCE**
- Applications due: 5/15/84
- Bachelor’s by inst. 940
- Bachelor’s by dept. 61
- Graduate Assistantship (5) 2705
- Graduate Students: full-time 31; full-time first year 81

**Temple University, Philadelphia 19122**

**COMPUTER AND INFORMATION SCIENCE**
- Applications due: 2/15/84
- Bachelor’s by inst. 3094
- Bachelor’s by dept. 12
- Fellowship 4500-6000
- Research Assistantship (12) 4500
- Graduate Students: full-time 30; full-time first year 50

**University of Pennsylvania, Philadelphia 19104**

**MATHEMATICS**
- Applications due: 2/15/84
- Bachelor’s by inst. 2541
- Bachelor’s by dept. 50
- Master’s by dept. 4
- Fellowship (1) 5400*
- Teaching Assistantship (37) 5400*
- Graduate Students: full-time 25; full-time first year 8; part-time 10-15


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**TYPE OF ASSISTANCE** | **STIPEND** | **FEES** | **SERVICE REQUIRED** | **DEGREES AWARDED**
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*(number anticipated 1984-1985)* | paid to student | paid by | hours | Academic year
| | dollars | student (€) | per week | 1982-1983

**STATISTICS**

Donald F. Morrison, Chairman

Graduate Students: full-time 11; full-time first year 2

Teaching Assistantship (2) 5000* 9 12-16 Teaching, grading

*1983-1984 stipend. Tuition benefits of six course units each year provided by assistantship.

University of Pittsburgh, Pittsburgh 15260

MATHEMATICS AND STATISTICS

Donald F. Morrison, Chairman

Applications due: 2/1/84

Bachelor's by inst. 2541

Master's by dept. 1

Ph. D. (80/83) S 5. Total: 5

Faculty 12; Published 12

Graduate Students: full-time 11; full-time first year 2

Teaching Assistantship (2) 5000* 9 12-16 Teaching, grading

*Monthly.

Villanova University, Villanova 19085

COMPUTER SCIENCE

Don Goelman, Director

Applications due: 3/15/84

Bachelor's by inst. 1060

Master's by dept. 20

Graduate Students: full-time 65; full-time first year 20; part-time 350

Teaching Fellowship (20) 5775-8662.50 8-12 Waived 15-20 Teaching, grading

Research Assistantship (9) 5450-8175 8-12 Waived 15-20 Teaching

Mellon Fellowship (2) 510-750 * Waived Various Grading, research

Ph. D. (80/83) ANT 3, AFA 1, GT 4, S 3, AM 5, Other 1. Total: 17

University of Puerto Rico, Mayaguez 00708

MATHEMATICS

Darrell Hajek, Chairman

Applications due: 4/15/84

Bachelor's by inst. 1568

Bachelor's by dept. 20

Graduate Students: full-time 7; full-time first year 2; part-time 7

Teaching Assistantship (10) 3500 10 60 6

Rhode Island

Brown University, Providence 02912

MATHEMATICS

Thomas F. Banchoff, Chairman

Applications due: 1/15/84

Bachelor's by dept. 25

Master's by dept. 1

Graduate Students: full-time 33; full-time first year 8; part-time –

Fellowship (8) 5000-6000 9 4 Teaching

Research Assistantship (4) 2400-4800 9 4 Research

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
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*3 hours per week, teaching; 7 hours per week, preparing; 10 hours per week, training.

**South Carolina**

Clemson University, Clemson 29631

**MATHEMATICAL SCIENCES**

Faculty 46; Published 20
Graduate Students: full-time 70; full-time first year 23; part-time 4

**Teaching Assistantship (20)**
5400 9 * 3-6* Teaching

**Research Assistantship (3)**
5400-6000 9 * 20 Research

**Programming (3)**
7350-7800 12 * 20 Programming

University of South Carolina, Columbia 29210

**MATHEMATICS AND STATISTICS**

Faculty 42; Published 38
Graduate Students: full-time 40; full-time first year 12; part-time 15

**Teaching Fellowship (38)**
7000-9800 12 150 15-20 Teaching

**Teaching Assistantship (2)**
7000-9600 12 150 15-20 Teaching, research

**South Dakota**

South Dakota School of Mines and Technology, Rapid City 57701

**MATHEMATICAL SCIENCES**

Applications due: 3/1/84
Graduate Students: full-time 10; full-time first year 5; part-time 2

**Teaching Assistantship (10)**
4400 9 14.96/sem. hr. 15 Teaching

South Dakota State University, Brookings 57007

**MATHEMATICS**

Applications due: 4/15/84
Graduate Students: full-time 4; full-time first year 3; part-time 1

**Teaching Assistantship (4)**
2600-5200 9 14.30/hr. 3-6* Teaching

University of South Dakota, Vermillion 57069

**MATHEMATICAL SCIENCES**

Applications due: 4/1/84
Graduate Students: full-time 5; full-time first year 1; part-time 1

**Teaching Assistantship (5)**
3050-3100 9 452.96 4 Teaching

**Tennessee**

East Tennessee State University, Johnson City 37614

**MATHEMATICS**

Applications due: 4/15/84
Graduate Students: full-time 6; full-time first year 3; part-time 10

**Teaching Assistantship (3)**
2700-3000 9 1000 6* Teaching

Memphis State University, Memphis 38152

**MATHEMATICAL SCIENCES**

Applications due: 4/1/84
Graduate Students: full-time 89; full-time first year 19; part-time 4

**Teaching Assistantship (36)**
5200-6600 9 48/sem. hr. 20 Teaching

Ph. D. (80/83) ANT 1, AFA 1, OR 2, AM 1, Other 4. Total: 7

Ph. D. (80/83) AFA 2, S 2, AM 1, Other 1. Total: 8
Middle Tennessee State University, Murfreesboro 37132

MATHEMATICS AND COMPUTER SCIENCE
Applications due: 4/1/84
Bachelor's by inst. 581
Harold S. Spraker, Chairman
Faculty 29; Published 3
Graduate Students: full-time 12; full-time first year 3; part-time 7
Teaching Assistantship (14) 3800-4000 9 6* Master's by dept. 9

Tennessee Technological University, Cookeville 38505

MATHEMATICS AND COMPUTER SCIENCE
Applications due: 5/1/84
Bachelor's by dept. 30
Edmond Dixon, Chairman
Faculty 25; Published 10
Graduate Students: full-time 10; full-time first year 5; part-time 4
Teaching Assistantship (6) 4200 9 6 Master's by dept. 3

University of Tennessee, Knoxville 37996

COMPUTER SCIENCE
Applications due: 3/1/84
Bachelor's by inst. 3482
Terry Feagin, Chairman
Faculty 15; Published 4
Fellowship (1) 4851 9 46 Teaching Bachelor's by dept. 77
Teaching Assistantship (12) 4851 9 46 20 Teaching

MATHEMATICS
Applications due: 3/1/84
Bachelor's by inst. 3482
John S. Bradley, Head
Faculty 45; Published 41
Graduate Students: full-time 54; full-time first year 13; part-time 3
Fellowship (1) 4000 12 138 Ph. D. (80/83) AFA 1, GT 2,
Teaching Fellowship (2) 7000 9 138 4* F 1, AM 6. Total: 10
Teaching Assistantship (52) 5202-6420 9 138 6*-8*

STATISTICS
Applications due: 2/15/84
Bachelor's by inst. 3482
David Sylwester, Head
Faculty 11; Published 8
Graduate Students: full-time 7; full-time first year 3; part-time 5
Teaching Assistantship (4) 5400 9 150 Teaching Master's by dept. 5
Computer Center Advisor (3) 4000-7000 9 1050 10-20 Consulting

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UNIVERSITY 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 45 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, transformation groups, and topological algebra. Faculty and students are currently engaged in joint work in computer science, ecology, economics, education, electrical engineering, engineering mechanics, nuclear engineering, and physics. 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 $7,000 for the academic year, tuition remission, and a reduced teaching load. Regular Teaching Assistantship support, ranging from at least $5,202 to $6,420 plus tuition remission, is available to qualified students. The value of tuition remission is at least $1,500. Other support, in the form of Research Assistantships 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 city of Knoxville is the major city of the metropolitan area containing a population of 476,517. For January the average temperature is 32°F. For July the average low is 68°F and the average high is 89°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.
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**Vanderbilt University, Nashville 37235**

**COMPUTER SCIENCE**

Applications due: 2/1/84

Patrick C. Fischer, Chairman
Faculty 9; Published 8
Graduate Students: full-time 29; full-time first year 11; part-time 3

Fellowship (2) 5700 9
Teaching Assistantship (10) 5175-6300 9 16
Research Assistantship (6) 5400-6300 9 15
Scholarship (2) 1500-2000* 9

*Plus teaching assistantship.

**MATHEMATICS**

Applications due: 2/1/84

Richard R. Goldberg, Chairman
Faculty 26; Published 19
Graduate Students: full-time 15; full-time first year 6; part-time 3

Teaching Fellowship (18) 6000 9 Waived 6
H. S. Vanderbilt Fellowship (2) 7500* 9 6


**Texas**

**Angelo State University, San Angelo 76909**

**MATHEMATICS**

Applications due: 3/15/84

Johnny M. Bailey, Head
Faculty 12; Published 0
Graduate Students: full-time 0; full-time first year 0; part-time 1

Fellowship (1) 4700 9 * 20 Grading, lab
Scholarship (15) 1000-3000 9 *
Student Aide (10) 1092-2184 9 * 10-20 Grading

*Resident: 8250, nonresident: 8474.

**Baylor University, Waco 76798**

**MATHEMATICS**

Applications due: 5/1/84

Howard Rolf, Chairman
Faculty 19; Published 9
Graduate Students: full-time 2; full-time first year 1; part-time 1

Teaching Assistantship (7) 4300-5000 9 3* Teaching
9 10 Tutoring

**East Texas State University, Commerce 75428**

**MATHEMATICS**

Applications due: 4/1/84

Dale R. Bedgood, Head
Faculty 16; Published 3
Graduate Students: full-time 20; full-time first year 10; part-time 30

Teaching Assistantship (10) 4643 9 350 6

**Lamar University, Beaumont 77710**

**MATHEMATICS**

Applications due: 5/15/84

George D. Poole, Chairman
Faculty 25; Published 10
Graduate Students: full-time 10; full-time first year 3; part-time 8

Teaching Assistantship (5) 4000-4500 9 20

**North Texas State University, Denton 76203**

**MATHEMATICS**

Applications due: 4/20/84

John Ed Allen, Chairman
Faculty 21; Published 15
Graduate Students: full-time 41; full-time first year 9; part-time 6

Teaching Fellowship (36) 6400-14400 9 345 6-12* Teaching
6 Ph. D. (80/83) AFA 4, AM 3. Total: 7

**Pan American University, Edinburg 78539**

**MATHEMATICS**

Applications due: 8/15/84

John C. Huber, Chairman
Faculty 23; Published 7
Graduate Students: full-time 10; full-time first year 3; part-time 24

Teaching Assistantship (2) 5500-7020 9 800 6*

**Rice University, Houston 77251**

**MATHEMATICS**

Applications due: 3/15/84

W. A. Veech, Chairman
Faculty 17; Published 17
Graduate Students: full-time 13; full-time first year 7; part-time 0

Fellowship 9000-10000 9 3700 10 Ph. D. (80/83) AFA 3. Total: 3

898
TEACHING FELLOW STIPENDS FOR 1984—85
WILL RANGE FROM $6,400 TO $14,400

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 metroplex 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 20,000 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 572 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 Professors 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 student to have excellent research and educational training in mathematics. The department has 21 faculty members and 36 teaching fellow positions. We have been fortunate to have as our guests in recent years S. Kakutani, Stan Ulam, Paul Erdos, 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 $250 per semester by working three hours per week in the Tutor Lab.

Committee on Teaching Fellowships: Professors R. Daniel Mauldin, Paul Lewis, John Neuberger, David Appling.

For information contact:

John Ed Allen, Chairman
Department of Mathematics
North Texas State University
Denton, Texas 76203 (817) 565-2155

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

MATHEMATICS
Applications due: 4/1/84*
G. W. Redden, Chairman
Faculty 17; Published 12
Graduate Students: full-time 12; full-time first year 4; part-time 7
Teaching Assistantship (12)
6000-7000
9
3
Teaching
*Late applications considered.

STATISTICS
Applications due: 7/1/84
Richard F. Gunst, Chairman
Faculty 13; Published 13
Graduate Students: full-time 20; full-time first year 7; part-time 2
Teaching Assistantship (6-10)
6000-7000
9
8-10
Teaching

Southwest Texas State University, San Marcos 78666

MATHEMATICS AND COMPUTER SCIENCE
Applications due: 5/30/84
John Spellmann, Chairman
Faculty 34; Published 18
Graduate Students: full-time 58; full-time first year 38; part-time 6
Teaching Assistantship (12)
6500-6700
9
400
12
Teaching
Lab Assistantship (5)
4200-4700
9
400
20
Labs

Stepen F. Austin State University, Nacogdoches 75962

MATHEMATICS AND STATISTICS
Applications due: 4/1/84
T. A. Atchison, Chairman
Faculty 25; Published 4
Graduate Students: full-time 7; full-time first year 3; part-time 0
Teaching Assistantship (10)
4725-5000
9
308
6
Teaching

Texas A&M University, College Station 77843

MATHEMATICS
Applications due: 3/1/84*
H. E. Lacey, Head
Faculty 74; Published 62
Graduate Students: full-time 36; full-time first year 11; part-time 2
Teaching Assistantship (75)
7500-9600
12
500
10-12
Teaching related duties

*Late applications will be considered.

Texas Tech University, Lubbock 79409

MATHEMATICS
Applications due: 4/1/84
John T. White, Chairman
Faculty 48; Published 39
Graduate Students: full-time 47; full-time first year 14; part-time 12
Teaching Fellowship (2)
7000-7500
9
100
6
Teaching
Teaching Assistantship (47)
6500-7000
9
100
6
Total: 6

University of Houston–University Park, Houston 77004

MATHEMATICS
Applications due: 2/15/84*
Garret J. Etgen, Chairman
Faculty 49; Published 36
Graduate Students: full-time 38; full-time first year 7; part-time 40
Fellowship (2)
8000
9
410
6
Teaching
Fellowship (40)
6000-7000
9
410
6
Teaching
Instructorship (3-5)
8000-12000
9
410
7.5
Teaching

*Late applications considered if positions available.
TEXAS TECH UNIVERSITY

GRADUATE STUDY IN MATHEMATICS AND STATISTICS

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 48 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, transport theory, numerical analysis, nonlinear 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 1984–85 are expected to range from $6500–$7000. Current stipends range from $6200–$6600. 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. M. J. Strauss, Graduate Advisor
Department of Mathematics
Texas Tech University
Lubbock, Texas 79409.
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<td>University of Texas at Austin 78712</td>
<td>Mathematics</td>
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<td>University of Texas at El Paso 79968</td>
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<tr>
<td>University of Texas at San Antonio, 78285</td>
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<td>564*</td>
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<tr>
<td>West Texas State University, Canyon 79016</td>
<td>Mathematics and Physics</td>
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<td>Teaching Assistant</td>
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</table>

**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 $8,000 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
<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>dollars</td>
<td>student ($)</td>
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<td>per week</td>
<td>of service</td>
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**Utah**

**Brigham Young University, Provo 84602**

**Mathematics**

Applications due: 7/1/84

- Graduate Students: full-time 3; full-time first year 1; part-time 2
- Teaching Assistantship (50) 1615-1845
- Scholarship (6-10) **
- Internship (2) 8 * 10 Research

*Not available at this time.* **Half tuition to full tuition.

**Statistics**

Applications due: 7/1/84

- Graduate Students: full-time 15; full-time first year 1; part-time -
- Teaching Fellowship (3) 8000-8500
- Teaching Assistantship (10) 7500-8000
- Research Assistantship (7) 7500-8000

**University of Utah, Salt Lake City 84112**

**Computer Science**

Applications due: 7/1/84

- Graduate Students: full-time 68; full-time first year 15; part-time 20
- Fellowship (3) 4500
- Teaching Assistantship (10) 5400-7200
- Research Assistantship (18) 5400-7200
- Governmental and Private Corp. Fellowship (3) 10000-12000

**Mathematics**

Applications due: 3/15/84

- Graduate Students: full-time 43; full-time first year 12; part-time 0
- Teaching Fellowship (33) 9000
- Teaching Assistantship (10) 8500

**Utah State University, Logan 84322**

**Applied Statistics**

Applications due: 5/15/84

- Graduate Students: full-time 10; full-time first year 7; part-time 10
- Teaching Assistantship (4) 4200-4800
- Research Assistantship (3) 4200-4800

**Mathematics**

Applications due: 6/1/84

- Graduate Students: full-time 13; full-time first year 8; part-time 2
- Teaching Assistantship (15) 3500-7000
- Teaching Assistantship (4) 2500-3000

**Vermont**

**University of Vermont, Burlington 05405**

**Mathematics**

Applications due: 3/1/84

- Graduate Students: full-time 19; full-time first year 10; part-time 3
- Fellowship (14) 5500

**Statistics**

Applications due: 3/1/84

- Graduate Students: full-time 4; full-time first year 2; part-time 3
- Teaching Assistantship (3) 5400
- Research Assistantship (2) 6900

903
Virginia

College of William and Mary, Williamsburg 23185
MATHMATICS AND COMPUTER SCIENCE
John H. Drew, Chairman
Applications due: 4/1/84
Graduate Students: full-time 12; full-time first year 6; part-time 5
Teaching Assistantship (4) 4000 9 15 Grading

George Mason University, Fairfax 22180
MATHEMATICAL SCIENCES
Richard Draper, Chairman
Applications due: 4/1/84
Faculty: 37; Published: 26
Graduate Students: full-time 8; full-time first year 4; part-time 40
Fellowship (1) 3500 9 *
Teaching Assistantship (2) 3500-4300 9 * 20 Grading, teaching
Research Assistantship (1) 3500-4300 9 * 20 Research
*1983-1984 rates: In-state $57.50 per credit hour; out-of-state $111 per credit hour. $15 application fee.

James Madison University, Harrisonburg 22807
MATHEMATICS AND COMPUTER SCIENCE
Diane M. Spresser, Head
Applications due: 4/30/84
Faculty: 26; Published: 11
Graduate Students: full-time 5; full-time first year 1; part-time 0
Teaching Assistantship (7) 3800 9 6* Teaching

Medical College of Virginia, Virginia Commonwealth University, Richmond 23298
BIOSTATISTICS
S. C. Choi, Interim Chairman
Applications due: 4/1/84
Faculty: 7; Published: 7
Graduate Students: full-time 23; full-time first year 2; part-time 3
Fellowship (2) 4410 9 20 Ph. D. (80/83) Other 1. Total: 1
Teaching Assistantship (20) 5292-6000 12 20
Research Assistantship (2) 5300 12 20

Old Dominion University, Norfolk 23508
MATHEMATICS
Stan Weinstein, Chairman
Applications due: 5/1/84
Faculty: 24; Published: 16
Graduate Students: full-time 20; full-time first year 10; part-time 20
Fellowship (7) 2500-4000 9
Teaching Assistantship (16) 5000-7000 9 20 Teaching, grading
Research Assistantship (3) 5000-10000 9 20 Research
Summer Teaching/Research (10) 2000

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, computer science, 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 $7,000 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
University of Virginia, Charlottesville 22901

APPLIED MATHEMATICS AND COMPUTER SCIENCE

Applications due: 2/1/84
Faculty 24; Published 19

James M. Ortega, Chairman
Graduate Students: full-time 70; full-time first year 40; part-time 45

Teaching Fellowship (6-8)
7000-8000
9
10
Ph. D. (80/88) CS 5, AM 3.

Teaching Assistantship (12-15)
7500-8500
9
0-1700
20
Total: 9

Research Assistantship (20-25)
7500-9000
9
0-1700
20

MATHEMATICS

Applications due: 2/1/84
Faculty 30; Published 28

E. C. Paige, Chairman
Graduate Students: full-time 35; full-time first year 17; part-time 1

Fellowship (10)
5600-6800
9
Ph. D. (80/88) ANT 3, AFA 7,

Teaching Fellowship (3)
5600-7800
9
3
Teaching
GT 4. Total: 14

Teaching Assistantship (33)
5600-7800
9
0-2100
6
Teaching

Virginia Polytechnic Institute and State University, Blacksburg 24061

INDUSTRIAL ENGINEERING AND OPERATIONS RESEARCH

Applications due: 4/5/84
Faculty 30; Published 30

Robert D. Dryden, Head
Graduate Students: full-time 142; full-time first year 24; part-time 139

Fellowship (2)
9000
9
1800
Ph. D. (80/88) OR 15, Other 12.

Teaching Assistantship (26)
7000
9
1800
20
Grading
Total: 27

Research Assistantship (15)
7000
9
1800
20
Research

Scholarship (20)
1000-12000
12

MATHEMATICS

Applications due: 4/15/84
Faculty 80; Published 52

C. Wayne Patty, Head
Graduate Students: full-time 50; full-time first year 21; part-time 0

Fellowship (2)
6885-7785
9
1800
20
Ph. D. (80/83) ANT 2, AFA 1,

Total: 12

UNIVERSITY OF VIRGINIA

GRADUATE STUDIES IN MATHEMATICS

The Department of Mathematics offers Masters and Ph.D. programs in Mathematics. 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, research assistantships, and teaching assistantships.

For information write—
Department of Mathematics — Mathematics-Astronomy Building — Charlottesville, Virginia 22903

UNIVERSITY OF VIRGINIA

GRADUATE STUDY IN APPLIED MATHEMATICS

The Department of Applied Mathematics and Computer Science offers graduate programs leading to the Master of Applied Mathematics, M.S. and Ph.D. degrees in Applied Mathematics, as well as similar degrees in Computer Science. There is particular strength in numerical analysis and scientific computing which unifies a range of research activities among the faculty. These include continuum mechanics, shell theory, stochastic models and probability theory, control theory, wave propagation, dynamics of galaxies, and computational solid and fluid mechanics. The 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 relevant courses in Engineering. Fellowships, research and teaching assistantships are available. For information write:

Department of Applied Mathematics and Computer Science
University of Virginia, Thornton Hall, Charlottesville, VA 22901
Central Washington University, Ellensburg 98926

MATHEMATICS
 Applications due: 7/1/84
 W. F. Cutlip, Chairman
 Faculty 10; Published 3
 Graduate Students: full-time 44; full-time first year 14; part-time 2
 Teaching Assistantship (3) 4713 9 1320 19

Eastern Washington University, Cheney 99004

MATHEMATICS AND COMPUTER SCIENCE
 Applications due: 3/1/84
 Ronald H. Dalla, Chairman
 Faculty 22; Published 5
 Graduate Students: full-time 12; full-time first year 11; part-time –
 Teaching Assistantship (8) 4700-5000 9 1428* 5*

University of Washington, Seattle 98195

BIOMETRICS, BIOSTATISTICS
 Applications due: 4/1/84
 Richard A. Kronmal, Chairman, Biometrics Group
 Faculty 19; Published 19
 Graduate Students: full-time 83; full-time first year 20; part-time –
 Fellowship (12) 5040 12
 Teaching Assistantship (3) 10104 12 1084 20 Grading, teaching
 Research Assistantship (22) 9888 12 1884 20 Research
 MATHMATICS
 Applications due: 2/15/84
 R. Gangolli, Chairman
 Faculty 61; Published 40
 Graduate Students: full-time 71; full-time first year 22; part-time 10
 Teaching Fellowship (1) 9698 12 2318 10 Teaching
 Teaching Assistantship (73) 7578-8010 9 1884 20* Teaching
 Research Assistantship (6) 7794-8334 9 1884 Research

Washington State University, Pullman 99164

COMPUTER SCIENCE
 Applications due: 3/1/84
 J. Denbigh Starkey, Acting Chair
 Faculty 31; Published 11
 Graduate Students: full-time 48; full-time first year 24; part-time 3
 Fellowship (3) 5500
 Teaching Assistantship (37)* 8200-8600 9 1990 20 Grading, teaching
 Research Assistantship (6) 8000-8400 9 1990 20 Research
 Staff Assistantship (2) 8200-8600 9 1990 20 Consulting
 Instructorship (5) 13500 9 1990 20 Teaching

*Summer teaching assistantships are also available.
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<tr>
<th>TYPE OF ASSISTANCE</th>
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<th>SERVICE REQUIRED</th>
<th>DEGREES AWARDED</th>
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<td>1984-1985)</td>
<td>dollars</td>
<td>months</td>
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Western Washington University, Bellingham 98225

**MATHEMATICS**

Applications due: 3/15/84

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<th>1428</th>
<th>4* Teaching</th>
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</table>

Al Froderberg, Chairman

Graduate Students: full-time 5; full-time first year 4; part-time 2

Marshall University, Huntington 25701

**MATHEMATICS**

Applications due: 4/1/84

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<th>Teaching Assistantship (10)</th>
<th>2400-3460</th>
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<th>175</th>
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C. V. Peele, Chairman

Graduate Students: full-time 9; full-time first year 2; part-time 0

West Virginia University, Morgantown 26506

**MATHEMATICS**

Applications due: 3/1/84

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<tr>
<th>Teaching Assistantship (9)</th>
<th>4500</th>
<th>9</th>
<th>90</th>
<th>14 Teaching</th>
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</table>

James Miller, Acting Chairman

Graduate Students: full-time 22; full-time first year 13; part-time 1

West Virginia University, Morgantown 26506

**STATISTICS AND COMPUTER SCIENCE**

Applications due: 3/1/84

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<th>Teaching Assistantship (9)</th>
<th>4812-7200</th>
<th>9-12</th>
<th>90</th>
<th>20 Consulting, research</th>
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</table>

Donald F. Butcher, Chairman

Graduate Students: full-time 56; full-time first year 18; part-time 21

Wisconsin

**Marquette University, Milwaukee 53233**

**MATHEMATICS, STATISTICS AND COMPUTER SCIENCE**

Applications due: 2/15/84

<table>
<thead>
<tr>
<th>Teaching Assistantship (18)</th>
<th>5050-5350</th>
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</table>

Douglas Harris, Chairman

Graduate Students: full-time 18; full-time first year 11; part-time -

Wisconsin

**University of Wisconsin-Eau Claire 54701**

**MATHEMATICS**

Applications due: 3/1/84

<table>
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<th>Graduate Assistantship (1 or 2)</th>
<th>5000</th>
<th>9</th>
<th>20 Grading, research, assisting</th>
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</table>

Marshall E. Wick, Chairman

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

WASHINGTON STATE UNIVERSITY

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

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<th>4 Instructorships*</th>
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<td>3 Fellowships</td>
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<td>6 Research Assistantships</td>
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<td>32 Teaching Assistantships</td>
<td>$ 8,200</td>
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</table>

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.

907
<table>
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<th>University of Wisconsin-Madison 53706</th>
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<tr>
<td>J. Marshall Osborn, Chairman</td>
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<td>*Canadian: $80 per 8 credits; foreign: $1080 per 8 credits.</td>
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<td>Fellowship (3)</td>
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<td>110/ cr. or. 880/sem.</td>
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<td>880/sem. 17-20 Teaching</td>
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<tr>
<td><strong>University of Wisconsin–Milwaukee 55201</strong></td>
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<tr>
<td><strong>MATHEMATICAL SCIENCES</strong></td>
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<td>D. J. Fatt, Chairman</td>
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<tr>
<td>Applications due: *</td>
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<td>Graduate Students: full-time 40; full-time first year 19; part-time 5</td>
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<tr>
<td>Fellowship (2)</td>
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<td>6900</td>
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<td>1400</td>
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<tr>
<td>Teaching Assistantship (45)</td>
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<td>1400</td>
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<tr>
<td>6' Teaching</td>
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<tr>
<td>*Fellowships: 2/1/84, assistantships: 7/1/84.</td>
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<tr>
<td><strong>University of Wisconsin–Oshkosh 54901</strong></td>
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<td><strong>MATHEMATICS</strong></td>
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<tr>
<td>N. J. Kuenzi, Chairman</td>
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<tr>
<td>Applications due: 5/1/84</td>
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<tr>
<td>Graduate Students: full-time 1; full-time first year 1; part-time 15</td>
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<td>Research Assistantship (2)</td>
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<td>4900</td>
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**Wyoming**

<table>
<thead>
<tr>
<th>University of Wyoming, Laramie 82071</th>
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<tbody>
<tr>
<td><strong>COMPUTER SCIENCE</strong></td>
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<tr>
<td>Henry R. Bauer III, Chairman</td>
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<tr>
<td>Applications due: 3/30/84</td>
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<td>Graduate Students: full-time 18; full-time first year 7; part-time 0</td>
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<td>Teaching Assistantship (6.5)</td>
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<td><strong>MATHEMATICS</strong></td>
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<td>Kenneth L. Gross, Head</td>
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<td>5535-7380</td>
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<td><strong>STATISTICS</strong></td>
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<td>Lyman McDonald, Chairman</td>
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**Canada**

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<tr>
<th>Carleton University, Ottawa, Ontario K1S 5B6</th>
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<tr>
<td><strong>MATHEMATICS AND STATISTICS</strong></td>
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<tr>
<td>Kenneth S. Williams, Chairman</td>
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<td>Applications due: 3/1/84</td>
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<td>Graduate Students: full-time 48; full-time first year 21; part-time 24</td>
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<td>Research Assistantship (30)</td>
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<tr>
<td>7500-10000</td>
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<td>12</td>
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<tr>
<td>10 Grading</td>
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<tr>
<td><strong>Concordia University, Montreal, Quebec H4B 1R6</strong></td>
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<td><strong>MATHEMATICS</strong></td>
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<tr>
<td>H. Propp, Chairman</td>
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<td>Applications due: 4/1/84</td>
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<td>*Canadian: $80 per 8 credits; foreign: $1080 per 8 credits.</td>
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<td><strong>MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE</strong></td>
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**Lakehead University, Thunder Bay, Ontario P7B 5E1**

**MATHEMATICAL SCIENCES**

- Teaching Assistantship* 3696
- Scholarship (8) 1200
- C. J. Sanders Scholarship (1) 1800
- C. J. Sanders Scholarship (1) 1200

*Unlimited.

**Canadian: $1220 first year, $470 second year; U.S.A.: $6930 first year, $1200 second year.**

**McGill University, Montréal, Québec H3A 2K6**

**MATHEMATICS AND STATISTICS**

- Graduate Students: full-time 45; full-time first year 15; part-time 0

**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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<th>TYPE OF ASSISTANCE</th>
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<th>SERVICE REQUIRED</th>
<th>DEGREES AWARDED</th>
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<td>dollars</td>
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**Queen's University, Kingston, Ontario K7L 3N6**

**MATHEMATICS AND STATISTICS**

Applications due: 2/84

L. L. Campbell, Head

Faculty 45; Published 29

**Teaching Assistantship (22)**

Graduate Students: full-time 28; full-time first year 10; part-time 3

2080-9000 8-12 0-5-10 Grading, teaching, research

**Scholarship (9)**

3094-5500 12

OGS, NSERC, Commonwealth (9)

7000-11100 12

*Canadian and Landed Immigrant: $1134 per year; foreign students: $5775 per year.

**Simon Fraser University, Burnaby, British Columbia V5A 1S6**

**MATHEMATICS**

Applications due: 3/1/84

G. A. C. Graham, Chairman

Faculty 33; Published 31

**Fellowship**

11100 12 490/sem.

**Teaching Assistantship (100)**

3100-3670 4 490/sem. 20 Teaching, grading

**Research Assistantship (8)**

3360 4 490/sem. 15 Research

**Scholarship (2)**

8500 12 490/sem.

**Stipend (6)**

2400-2900 4 490/sem.

*One month prior to start of the semester.

**University Laval, Québec, Québec G1K 7P4**

**MATHEMATIQUES**

Applications due: 3/1/84

Bernard R. Hodgson, Directeur

Faculty 35; Published 27

**Fellowship (Open)**

10500-12000 12 490/sem.

**Teaching Assistantship (25)**

6020-6255 8 12 Teaching, marking

**Research Assistantship (8)**

5850 8

**Scholarship (5)**

6600-11000 12

*Most graduate students with first class marks receive over $10000 in financial aid per year in one form or another.

**University of British Columbia, Vancouver, British Columbia V6T 1Y4**

**MATHEMATICS**

Applications due: 3/84

R. A. Restrepo, Acting Head

Faculty 72; Published 58

**Fellowship (Open)**

10500-12000 12 490/sem.

**Teaching Assistantship (25)**

6020-6255 8 12 Teaching, marking

**Research Assistantship (8)**

5850 8

**Scholarship (5)**

6600-11000 12

*Most graduate students with first class marks receive over $10000 in financial aid per year in one form or another.

**University of Calgary, Calgary, Alberta T2N 1N4**

**MATHEMATICS AND STATISTICS**

Applications due: 2/84

P. J. Browne, Chairman

Faculty 42; Published 39

**Teaching Assistantship (10)**

7500-8800 8 12 Preparation, contact, marking

**Research Assistantship (8)**

5850 8

**Scholarship (5)**

6600-11000 12

*Canadian and Landed Immigrant: $1134 per year; foreign students: $5775 per year.

**THE UNIVERSITY OF CALGARY**

**GRADUATE STUDIES IN MATHEMATICS AND STATISTICS**


Teaching and Research Assistantships: $5,850 – $8,100 for 8 months. In addition summer support of about $3,500 is generally available.

For further information write to: The Director of Graduate Studies, Department of Mathematics and Statistics, The University of Calgary, Calgary, Alberta, Canada T2N 1N4.
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**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, 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 $7,500. 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.
University of Waterloo, Waterloo, Ontario N2L 3G1

APPLIED MATHEMATICS  
B. Forte, Chairman  
Applications due: 4/30/84  
Faculty 22; Published 15  
Graduate Students: full-time 22; full-time first year 10; part-time 1  

Teaching Assistantship (76)  
1385-7696*  
12  **  5-10 Tutoring  
Ph. D. (80/83) AM 2. Total: 2  

Research Assistantship (22)  
10482  
12  **  To 10 Research  
Master's by dept. 9  

Scholarship (10)  
4390-16700  
8-12  **  

Bursaries (16)  
300-1800  
12  **  

*5 units per year.  
**Visa students: $2250 per term; Canadian/Landed Immigrant: $443 per term.  

COMBINATORICS AND OPTIMIZATION  
P. J. Schellenberg, Chairman  
Applications due: 4/30/84  
Faculty 22; Published 19  
Graduate Students: full-time 21; full-time first year 13; part-time 5  

Teaching Assistantship (87)*  
1385-7696**  
12  ***  5-10 Tutoring  
Ph. D. (80/83) ANT 2, GT 14, OR 2. Total: 18  

Research Assistantship (16)  
10482  
12  ***  To 10 Research  
Master's by dept. 5  

Scholarship (10)  
4390-16700  
8-12  ***  

Bursaries (8)  
300-1800  
12  ***  

*Units.  
**5 units per year.  
***Visa students: $2250 per term; Canadian/Landed Immigrant: $443 per term.  

COMPUTER SCIENCE  
J. D. Lawson, Chairman  
Applications due: 4/30/84  
Faculty 43; Published 39  
Graduate Students: full-time 144; full-time first year 93; part-time 26  

Teaching Assistantship (345)*  
1385-7696**  
12  ***  5-10 Tutoring  
Ph. D. (80/83) CS 13. Total: 13  

Research Assistantship (53)  
10482  
12  ***  To 10 Research  
Master's by dept. 60  

Scholarship (15)  
4390-16700  
8-12  ***  

Bursaries (12)  
300-1800  
12  ***  

*Units.  
**4 units per year.  
***Visa students: $2250 per term; Canadian/Landed Immigrant: $443 per term.  

PURE MATHEMATICS  
P. N. Hoffman, Chairman  
Applications due: 4/15/84  
Faculty 23; Published 19  
Graduate Students: full-time 13; full-time first year 9; part-time 0  

Teaching Assistantship (32)  
1385-7696*  
12  **  5-10 Tutoring  
Ph. D. (80/83) ANT 3, GT 2. Total: 5  

Research Assistantship (10)  
10482  
12  **  To 10 Research  
Master's by dept. 3  

Scholarship (6)  
4390-16700  
8-12  **  

Bursaries (8)  
300-1800  
12  **  

*5 units per year.  
**Visa students: $2250 per term; Canadian/Landed Immigrant: $443 per term.  

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 55 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 $7,400 and $8,670 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  

912
**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.**

### California
- **Stanford Univ**
  - **Computer Science**
  - **Ph.D.**
  - **Engineering-Economic Systems**
  - **Ph.D.**

### Colorado
- **Univ of Denver**
  - **Mathematics and Computer Science**
  - **Ph.D.**

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<td>Un of Michigan</td>
<td>Industrial and Operations Engineering Ph.D.</td>
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<td>Florida</td>
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<td>Georgia</td>
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<td>Missouri</td>
<td>St. Louis Univ Mathematics and Computer Sciences Ph.D.</td>
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Stipends for Study and Travel

Graduate Support

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, and physical oceanography. Applicants must be citizens or nationals of the U.S. (of any age) who will receive their baccalaureate degree in 1984, 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 $12,500 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 15 February 1984. 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).

Battelle Memorial Institute, Pacific Northwest Laboratory. Mathematics efforts in support of a number of current Department of Energy programs include neutron transport and radiative transfer, plasma dynamics, electromagnetic theory, applied statistics, diffusion processes, two-phase fluid flow, stochastic processes, and economic modelling. A limited number of summer appointments are available to faculty members, graduate students, and undergraduates through the Northwest College and University Association for Science (NORCUS) Program. Inquiries should be directed to NORCUS Office, Joint Center for Graduate Study, 100 Sprout Road, Richland, Washington 99352, (509-375-3090).

California State Graduate Fellowships. The state offers fellowships of up to $5500 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 1984-1985 awards is February 9, 1984.

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 is January 15 for the following academic year. Detailed information about the program can be obtained by writing to the CIC Minorities 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 Guggenheim 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, write to the Director of Graduate Studies, Department of Mechanical and Aerospace Engineering, Princeton University.

Fannie and John Hertz Foundation Fellowships. The stipend is $9,000 ($10,000 if married), plus cost-of-education allowance. 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-Mellon University; The University of Chicago; Cornell University; Courant Institute of Mathematical Sciences, New York University; Georgia Institute of Technology; Massachusetts Institute of Technology; Polytechnic Institute of New York; Princeton University; Rensselaer Polytechnic Institute; Rice University; University of Rochester; Stanford University; 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 doctorate, 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 Fellowship Program, U.S. Arms Control and Disarmament Agency, Washington, D.C. 20451.

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.
Kenneth O. May Fellowship in the History of Mathematics. Awarded for graduate study in the history of mathematics in the Institute for the History and Philosophy of Science and Technology, University of Toronto. Candidates must have a comprehensive preparation in mathematics, a good background in history or philosophy, and effective writing skills. The stipend is $6,500 (Canadian) plus fees up to at least $2,500. Information and application forms may be obtained by writing to C. V. Jones, Institute for the History and Philosophy of Science and Technology, Victoria College, 73 Queen's Park Crescent East, University of Toronto, Toronto, Ontario M5S 1K7, Canada. Application deadline is February 1, 1984.

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 $8,100 for a 12-month tenure ($675 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 $8,100 for 12-month tenures ($675 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. Appointments 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 Larry Mann, Head, Department of Mathematics and Statistics, University of Massachusetts, Amherst, Massachusetts 01003.

Woodrow Wilson Women's Studies Research Grants. Grants of up to $1,000 are available for students at graduate schools in the United States who have completed all pre-dissertation requirements. These grants are designed to encourage original and significant research about women on such topics as the evolution of women's role in society and particularly contemporary America, women in history, the education of women, the psychology of women, and women as seen in literature. Forms and further information are available from the Woodrow Wilson National Fellowship Foundation. Women's Studies Program, Box 642, Princeton, New Jersey 08540. The deadline for receipt of applications is November 14, 1983.
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. It would be helpful if proposals to be considered for a given fiscal year, which begins on October 1, were submitted six months prior to that date. 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 eleven 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 1, 1983. Awards will be announced late in January 1984. For further information and application forms write to William J. LeVeque, Executive Director, American Mathematical Society, P.O. Box 6248, Providence, Rhode Island 02940.

American Philosophical Society. Postdoctoral research grants averaging $1,500 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 $600/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 $600/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 available at undergraduate through visiting scientist levels. Information: Paul Messina, Director, Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, Illinois 60439.

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 $19,000 to $24,000 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 or the Australian Atomic Energy Commission. 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, 1984 and no earlier than 1982. 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, 1984. 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.

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 $25,000. Duties include teaching one course for the full academic year. Application deadline is January 16. 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 congressman, a congressional committee or in the congressional Office of Technology Assessment. The applicant should be at the postdoctoral level, have a broad scientific and technical background, and have a strong interest in the uses of the mathematical and other sciences 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, 1984 by the Conference Board of the Mathematical Sciences, 1529 Eighteenth Street, N.W., Washington, D.C. 20036.

Cornell University. H.C. Wang Research Lectureship (with rank of Assistant Professor). During the first year the holder of a Wang Lectureship 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 $25,500. The Lectureship 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.

Cottrell College Science Grants. Awarded to support basic research in the natural sciences by faculty members at private undergraduate institutions. Normally given for items of direct expense, for faculty and student summer stipends and for unusual expenses. There are no age limitations, and student participation in the research is encouraged. Published guidelines may be obtained from Grants Program, Research Corporation, 6840 East Broadway Boulevard, Tucson, Arizona 85710.
**Cottrell Research Grants.** Awarded to support basic investigations in the physical sciences by faculty members at graduate universities and public undergraduate institutions. Normally given for items of direct expense needed to initiate research by younger faculty members or for the speculative research of established investigators. Research may be conducted over any period of time, but renewal grants are not usually considered. Published guidelines may be obtained from Grants Program, Research Corporation, 6840 East Broadway Boulevard, Tucson, Arizona 85710.

**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 $21,500. 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, 1984. 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, 1984. 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 stipend of $19,500 is supplemented by a two-month resident research fellowship of $2,500. Appointments are for two years and are not renewable. Applicants should write to Martin Arkowitz, Chairman, 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, 1984.

**John Simon Guggenheim Memorial Foundation Fellowships.** Fellowships 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 $19,000 in 1983. 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 $23,300 (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 2, 1984. 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 eleven months, and the stipend will be in the range of $36,000 to $42,000, depending on qualifications. To apply, submit the following by January 30, 1984: résumé; thesis summary; thesis or reprints of publications.
based on thesis, if available; bibliography with reprints of principal papers; 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 15, 1984. 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 $21,000. 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 1984-1985. 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, 1983. 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 Continuum Physics and Partial Differential Equations. This program will be coordinated by J. L. Ericksen and D. Kinderlehrer with the help of H. Brezis and C. Dafermos. Topics to be considered include incompletely posed problems, transition of phase, instability, and dynamical behavior of materials under the influence of heat, electromagnetic fields, diffusion, or other fields. Postdoctoral memberships are available with a stipend of $26,000 for 12 months beginning September 1, 1984, including $1,000 for relocation expenses. Sabbatical support memberships will also be available in the Institute. These appointments will provide partial support for periods for 3 to 12 months. Applicants who will have completed the Doctorate by September 1, 1984, should submit the following materials by January 15, 1984: (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 either type of membership 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, computer graphics, numerical analysis, and programming science. U.S. citizenship required. Inquiries should be directed to John E. Ranolletti (L-61), Computation Department, Lawrence Livermore National Laboratory, University of California, Livermore, California 94550.
Los Alamos National Laboratory. Offered to U.S. citizens holding the Ph.D., with 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: $36,600/year; application deadline: December 15 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 $23,750, 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. There are available 25 to 30 twelve month fellowship research positions for 1984-1985, beginning August 1984, for new and recent Ph.D.'s (of any age). Stipends will be between $24,000 and $25,000 for the year. There will be special programs at the Institute in low dimensional topology, and in K-theory, index theory, and operator algebras. While a majority of appointments will be in these two areas, a substantial number of appointments are expected to be made in other areas, so applications from candidates in all areas are welcome. Apply 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, 1984.

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 1984-1985 MRC expects to have a year of concentration in viscoelasticity and rheology, continuing the current emphasis on continuum mechanics. 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 or potential, as attested to by leading mathematicians in the candidate's field. The University of Wisconsin is an equal employment opportunity institution (Title IX/Title VI). For information write John A. Nohel, Director, Mathematics Research Center, University of Wisconsin, Madison, Wisconsin 53706.

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 of the Ph.D. The application deadline is January 27. 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, 1984. Further information and application materials may be obtained from the
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, 1984. 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 $24,500. Further information and application materials can be obtained from Associateship Programs (JH 608M2), 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: Computer Science Section, Division of Mathematical and Computer Sciences, 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 $2,300 per full-time month or $1,150 per half-time month, for a total of $55,200 for the eighteen academic-year months and six summer months. Deadline for applications is November 15, 1983; awards will be announced in early February 1984. 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 in applied mathematics or computer science with interest and competence in numerical linear algebra and computational statistics. For further information, call R. C. Ward at 615-574-3125 or write to J. J. Pinajian, Office of Employment and Professional Relations, Oak Ridge National Laboratory, Post Office Box X, Oak Ridge, Tennessee 37830.

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
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 additional 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, 19th St. N.W., Washington, D.C. 20560.

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 Lectureship 1984-1985. The lectureship 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: $18,552. Teaching duties comparable to those of regular faculty. Lecturers 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 inquiries and applications should be sent to: The Irvine Lectureships 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 two appointments for the year 1984-1985. 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 $25,868, plus a research supplement of $2,870 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, 1984. 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 $24,200. Candidates should possess a Ph.D. degree in mathematics or expect to receive one prior to September 1984. 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 92037. We expect to have references write to us directly. All applications completed by January 1, 1984 will receive thorough consideration. 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 1984. Appointment
is for two years with an annual salary of at least $25,000, instruction averaging four hours a week. Application deadline is January 15, 1984. 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. Theophil Henry Hildebrandt Research Assistant Professorships. Designed to provide mathematicians with favorable circumstances for the development of their research talents. Preference 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 1984-1985 will be determined later; there is a good possibility of additional income during the summer. Appointment is for three years. 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 F. W. Gehring, Chairman, Department of Mathematics, University of Michigan, Ann Arbor, Michigan 48109. 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, 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. A basic stipend of $16,000 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 $13,100. Applications may be obtained from the Director of Graduate Programs, Faculty of Arts and Sciences, University of Pittsburgh, Pittsburgh, Pennsylvania 15260.

University of Wisconsin, Madison. Van Vleck Assistant Professorships 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 $22,500 per academic year. All positions are for specified two- or three-year terms. Deadline for applications is December 31, 1983. Application blanks 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 1983-1984 salary is $23,500; an increase is expected for 1984-1985. 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 1984.
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 $2,000 to $3,000. 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 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.

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, 1983. 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, 1983. 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. 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. 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 July 1 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). This board 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 usually made for a semester or an academic year, but longer or shorter stays are possible by special arrangement. 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 Marina 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. They may also include a reference letter or have it sent directly.

Kosciusko 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, Kosciusko 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) Mideast: 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 Distinguished Scholar Exchange Program. Application deadlines are November 7, 1983 for the following academic year. Inquiries should be addressed to the Committee on Scholarly Communication with the People's Republic of China (CSCPRC), National Academy of Sciences, 2101 Constitution Avenue, N.W., 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, Office of 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, Canadian Wildlife Service; Canada-Fisheries and Oceans–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 $25,488, 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 doctorate 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, Montréal Road, Ottawa, Ontario, Canada K1A 0R6.

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, Office of Scientific and Engineering Personnel and Education, National Science Foundation, Washington, D.C. 20550.

Organization of American States. See entry in section on Study in the U.S. for Foreign Nationals.

Rotary Foundation. Graduate Scholarships and Undergraduate Scholarships. One academic year of study abroad for the 1984-1985 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 March 1, 1984.

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.B. 76-100, Israel. The application should reach the above address not later than November 15, 1983 for fellowships starting in April 1984 and not later than May 15, 1984 for fellowships starting in October 1984.

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.

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, Mechelininkatu 10 A 10, SF-001 00 Helsinki 10, Finland; Íslensk-Ameríka Félagið, P.O. Box 7051, Reykjavik, Iceland; Norge-Amerika Foreningen, Drammensveien 20, Oslo 2, Norway; Sverige-Amerikà 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 undertakes to place 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, Karmelitska, 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. Dorottya 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, Leninskii 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 31. Write to Secretary, Kennedy Memorial Trust, Association of Commonwealth Universities, 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.

Chronicle Student Aid Annual, 1983. Catalog No. 502A. $14.50 plus $1.45 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

930
and career opportunities (290 pages). Garrett Park Press, Garrett Park, Maryland 20896. $18 prepaid.


**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 to Soviet universities and also 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.


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