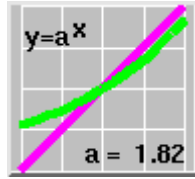


Mathematics



Courtesy: <http://www.ima.umn.edu/~arnold/graphics.html#exponential>

Applied Mathematics

United States Department of Energy (DOE)

Deadline: Continuous

Amount: The award amount is unspecified. It is anticipated that approximately \$400,000,000 will be available for grant and cooperative agreement awards.

Abstract: The Applied Mathematics section focuses on research on the underlying mathematical understanding and numerical algorithms to enable effective description and prediction of physical systems such as fluids, magnetized plasmas, or protein molecules. This includes, for example,

- methods for solving large systems of partial differential equations on parallel computers,
- techniques for choosing optimal values for parameters in large systems with hundreds to hundreds of thousands of parameters,
- improving our understanding of fluid turbulence, and
- developing techniques for reliably estimating the errors in simulations of complex physical phenomena.

Contact:

Director
Grants and Contracts Division
Office of Science, SC-64
U.S. Department of Energy
19901 Germantown Road
Germantown, MD 20874-1290
Phone: (301) 903-5800

<http://fr.cos.com/cgi-bin/getRec?id=20021017a16>

Ralph E. Kleinman Prize
Society for Industrial and Applied Mathematics (SIAM)

Deadline: Continuous

Amount: \$5,000

Abstract: The Ralph E. Kleinman prize is awarded to one individual for outstanding research, or other contributions, that bridge the gap between mathematics and applications. Work that uses high-level mathematics or invents new mathematical tools to solve applied problems from engineering, science, and technology is particularly appropriate. The value of the work will be measured by the quality of the mathematics and its impact on the application. Each prize may be given either for a single notable achievement or for a collection of such achievements.

Contact:

Society for Industrial and Applied Mathematics
3600 University City Science Center
Philadelphia, PA 19104-2688
Phone: (215) 382-9800
Fax: (215) 386-7999
<http://www.siam.org/prizes/kleinman.htm>

Norbert Wiener Prize and George David Birkhoff Prize
Society for Industrial and Applied Mathematics (SIAM)

Deadline: Continuous

Amount: \$1,500 for each award.

Abstract: These two prizes, both established in 1967, are awarded jointly by the Society for Industrial and Applied **Mathematics** (SIAM) and the American Mathematical Society (AMS). Both are awarded for an outstanding contribution to applied **mathematics** in the highest and broadest sense. The committees are to report their findings at least three months before the prize award date.

The next award of the Wiener prize will be made at the 2005 AMS Joint **Mathematics** Meeting. The next award of the Birkhoff Prize will be made at the 2003 AMS Joint **Mathematics** Meeting.

Contact:

Society for Industrial and Applied Mathematics
3600 University City Science Center
Philadelphia, PA 19104-2688
Phone: (215) 382-9800
Fax: (215) 386-7999
<http://www.siam.org/prizes/wiener.htm>

John von Neumann Lecture
Society for Industrial and Applied Mathematics (SIAM)

Deadline: Continuous

Amount: \$2,500. The award consists of \$2,500, plus travel expenses to the annual meeting.

Abstract: This prize, established in 1959, is in the form of an honorarium for an invited lecture called the John von Neumann Lecture. The lecturer will survey and evaluate a significant and useful contribution to **mathematics** and its applications. It may be awarded to a mathematician or to a scientist in another field, but in either case, the recipient should be one who has made distinguished contributions to pure or applied **mathematics**. The prize will be given at the society's annual meeting.

Contact:

Society for Industrial and Applied Mathematics
3600 University City Science Center
Philadelphia, PA 19104-2688
Phone: (215) 382-9800
Fax: (215) 386-7999
<http://www.siam.org/prizes/vonneu.htm>

Physical Mathematics and Applied Analysis
United States Department of Defense (DOD)

Deadline: Continuous

Amount: Unknown

Abstract: This program pursues mathematical models and their analysis in areas of interest to the air force. The goal is to distill focused mathematical models of particular physical phenomena and the mathematical methods for their analysis, as well as to produce models sufficient for numerical computation. The payoffs include understanding and modeling physical phenomena (e.g., nonlinear optics, turbulent flow) leading to methods for their simulation and control.

Although it supports a broad range of topics, this program concentrates on several special interests:

1. Nonlinear optics
2. Mathematical materials science
3. Theoretical fluid mechanics (including transonics, hypersonics, and local meteorological changes to the atmospheres index of refraction)
4. Combustion or detonation
5. Orbital mechanics of various satellites

Contact:

Dr. Arje Nachman
AFOSR/NM
801 North Randolph Street
Arlington, VA 2203-1977
Phone: (703) 696-8427
DSN 426-8427

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Mailto: arje.nachman@afosr.af.mil
<http://www.afosr.af.mil/pages/baa2003.htm#Physical>

Mathematical Contest in Modeling Society for Industrial and Applied Mathematics (SIAM)

Deadline: Continuous

Amount: Each student member of the winning team will receive a cash award of \$300 and a one-year student membership in SIAM. Team members' reasonable travel expenses (up to \$500) to attend the meeting will be paid by SIAM. A one-year student membership in SIAM will be given to each member of non-winning teams judged as "Outstanding" by the official contest judges. A suitable certificate for the home institutions will be given to the faculty advisers of the winning teams.

Abstract: The Mathematical Contest in Modeling (MCM), established in 1988, is awarded to three of the teams judged "Outstanding" in the annual MCM. One winning team is chosen for each of the three problems posed in the MCM. The next award is scheduled to be made at 2002 SIAM annual meeting.

Contact:

Society for Industrial and Applied Mathematics
3600 University City Science Center
Philadelphia, PA 19104-2688
Phone: (215) 382-9800
Fax: (215) 386-7999
<http://www.siam.org/prizes/modeling.htm>

Optimization and Discrete Mathematics

United States Department of Defense (DOD)

Deadline: Continuous

Amount: Unknown

Abstract: The goal of this research topic is to develop mathematical methods for solving large or complex problems, such as those occurring in logistics, engineering design, and strategic planning. These problems can often be formulated as mathematical programs. Therefore, research is directed at new linear and nonlinear programming methods, especially when formulated for the solution of selected air force problems. The air force is particularly interested in innovative techniques that combine the use of artificial intelligence and operations research.

Contact:

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Mailto: juan.vasquez@afosr.af.mil
<http://www.afosr.af.mil/pages/baa2003.htm#Optimization>

Vertical Integration of Research and Education in the Mathematical Sciences (VIGRE)

National Science Foundation (NSF)

Deadline: Continuous

Amount: \$5,000,000. Each proposal should describe a five-year program. Awards will initially fund the first three years of the project. Funding for the remaining two years is not guaranteed, and is contingent upon a satisfactory outcome of a comprehensive third-year assessment by NSF. Funding is always subject to availability of funds.

VIGRE funds will provide awards in amounts up to \$1,000,000 per year (including direct and indirect costs) to support the main activities for a duration not to exceed five years. However, it is expected that the average award size will be under \$500,000 per year.

Abstract: The long-range goal of the Vertical Integration of Research and Education in the Mathematical Sciences (VIGRE) program is to increase the number of well-prepared U.S. citizens, nationals, and permanent residents who pursue careers in the mathematical sciences. A successful VIGRE project must integrate research with educational activities; enhance interaction among undergraduates, graduate students, postdoctoral associates, and faculty members; broaden the educational experiences of its students and postdoctoral associates to prepare them for a wide range of career opportunities; and motivate more students to pursue an education in the mathematical sciences. With these goals in mind, each VIGRE proposal must present a coherent plan for the integration of a graduate traineeship program, an undergraduate research experience program, and a postdoctoral program.

Contact:

Dr. John Stufken, Program Officer
National Science Foundation
Directorate for Mathematical and
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Division of Mathematical Sciences
4201 Wilson Boulevard, Room 1025
Arlington, VA 22230
Phone: (703) 292-4881
Mailto: jstufken@nsf.gov
[http://www.nsf.gov/cgi-
bin/getpub?nsf02120](http://www.nsf.gov/cgi-bin/getpub?nsf02120)

Peter Henrici Prize
**Society for Industrial and Applied
Mathematics (SIAM)**

Deadline: Continuous

Amount: \$2,500. The award is to include a certificate containing the citation and a cash prize of approximately \$2500, plus reasonable

travel costs to the meeting at which the prize is awarded.

Abstract: The Peter Henrici Prize is awarded jointly by Eidgenössische Technische Hochschule-Zurich (ETHZ) and the Society for Industrial and Applied Mathematics (SIAM). The prize is awarded for original contributions to applied analysis and numerical analysis or for exposition appropriate for applied mathematics and scientific computing. The award is intended to recognize broad and extended contributions to these subjects, more than a single outstanding work.

Contact:

Society for Industrial and Applied
Mathematics
3600 University City Science Center
Philadelphia, PA 19104-2688
Phone: (215) 382-9800
Fax: (215) 386-7999
<http://www.siam.org/prizes/henrici.htm>

Paul L. Busch Award
**Water Environment Research
Federation (WERF)**

Deadline: June 01, 2003

Amount: \$100,000. The recipients of the award are recognized and rewarded with a grant of \$100,000 to continue their work, take risks, and explore new directions and benefits.

Abstract: The Water Environment Research Foundation (WERF) Endowment for Innovation in Applied Water Quality Research recognizes superior achievement and creative vision through the Paul L. Busch Award. The award seeks to distinguish rising stars in scientific and engineering research in the fields of water quality and the water environment. Individuals or teams with demonstrated track records are challenged to articulate the difference the Paul L. Busch award will make to

their research, and describe the new thinking being explored and its potential for practical application.

Contact:

Water Environment Research Federation
601 Wythe Street
Alexandria, VA 22314-1994
Phone: (703) 684-2470
Fax: (703) 299-0742
Mailto: werf@werf.org
<http://www.werf.org/Funding/endowment.cfm>

Joint DMS/NIGMS Initiative to Support Research in the Area of Mathematical Biology

National Science Foundation (NSF)

Deadline: June 30, 2003

Amount: \$400,000- \$2,000,000. DMS and NIGMS anticipate making 20 to 25 awards totaling about \$6,000,000, in each of fiscal years 2003 through 2005. The projected range is from \$100,000 to \$400,000 per award per year (total costs), with durations of four to five years. Awards made from this competition may be made by either DMS or NIGMS, at the option of the agencies, not the grantee.

Abstract: The Division of Mathematical Sciences (DMS) in the Directorate for Mathematical and Physical Sciences (MPS) at the National Science Foundation (NSF) and the National Institute of General Medical Sciences (NIGMS) at the National Institutes of Health (NIH) plan to support research in mathematics and statistics related to mathematical biology research. Both agencies recognize the need for additional research at the boundary between the mathematical sciences and the life sciences. This competition is designed to encourage new collaborations at this interface, as well as to support existing ones.

Examples of areas of research that are appropriate under this competition include the following:

1. Evolutionary theory and practice arising from genomics advances
2. Statistical and other approaches to the discovery of genes contributing to complex behavior, and their environmental interactions
3. Explanatory and predictive models of the cellular state
4. Growth, motility, cell division, membrane trafficking, and other cellular behavior
5. Metabolic circuitry and dynamics
6. Signal transduction
7. Informational molecule dynamics
8. Design principles and dynamics of pattern formation in development and differentiation
9. New approaches to the prediction of molecular structure
10. Improved algorithms for structure determination by x-ray crystallography, nuclear magnetic resonance (NMR), and electron microscopy
11. Simulations of the human systemic responses to burn, trauma, and other injury
12. New approaches to understanding system-wide effects of pharmacological agents and anesthetics, and their genetic and environmental modifiers

Contact:

Dr. Keith N. Crank, Program Director
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Division of Mathematical Sciences
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Arlington, VA 22230
Phone: (703) 292-4880
Mailto: kcrank@nsf.gov
<http://www.nsf.gov/cgi-bin/getpub?nsf02125>

Mathematics Research Fellowships
Abdus Salam International Centre for
Theoretical Physics (ICTP)

Mathematics Section

Deadline: August 15, 2003

Amount: The award amount is unspecified. The visiting fellowships may be held for up to 12 months during the period January to December 2003. Postdoctoral fellowships may be held for up to two years.

Abstract: The Mathematics Section of the Abdus Salam International Centre for Theoretical Physics (ICTP) invites applications for a small number of Visiting Fellowships for outstanding mathematicians from developing countries to spend up to a year at ICTP in 2003. Also, younger mathematicians who have obtained a Ph.D. in mathematics within the last four years may be considered for Post-Doctoral Fellowships.

Successful candidates will have the possibility of participating in the mathematics activities of the ICTP, the International School of Advanced Studies (ISAS/SISSA), and the University of Trieste, as well as the opportunity to have contact with visiting professors.

Contact:

Sharon Berry Laurenti
Mathematics Research Fellowships
(2003)

Abdus Salam International Centre for
Theoretical Physics

Strada Costiera 11

34014 Trieste

Italy

Phone: 39 040-2240272

Mailto: laurenti@ictp.trieste.it

http://www.ictp.trieste.it/www_users/math/2003_fellowships.html

Focused Research Groups in the
Mathematical Sciences (FRG)
National Science Foundation (NSF)

Deadline: August 19, 2003

Amount: \$150,000 - 1,050,000

Abstract: The purpose of the Focused Research Groups in the Mathematical Sciences (FRG) activity is to allow groups of researchers to respond to recognized scientific needs of pressing importance, to take advantage of current scientific opportunities, or to prepare the ground for anticipated significant scientific developments in the mathematical sciences. Groups may include, in addition to mathematical scientists, researchers from other science and engineering disciplines appropriate to the proposed research. The activity will support projects for which the collective effort by a group of researchers is necessary to reach the scientific goals. Projects should be scientifically focused and well delineated. It is not the intent of this activity to provide general support for infrastructure. Projects should also be timely, limited in duration to up to three years, and substantial in their scope and impact.

Contact:

Dr. Helen G. Grundman, Algebra,
Number Theory, and Combinatorics
Program, Program Director

National Science Foundation

Directorate for Mathematical and
Physical Sciences

Division of Mathematical Sciences

4201 Wilson Boulevard, Room 1025

Arlington, VA 22230

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Mailto: hgrundma@nsf.gov

<http://www.nsf.gov/cgi-bin/getpub?nsf02129>

NAS Award in Mathematics

National Academy of Sciences (NAS)**Deadline:** September 01, 2003**Amount:** ?????**Abstract:**

The NAS Award in Mathematics, established by the American Mathematical Society, is presented every four years by the National Academy of Sciences in recognition of excellence in research in the mathematical sciences published within the past ten years.

Contact:

National Academy of Sciences
Awards Program, Room NAS 185
2101 Constitution Avenue, NW
Washington, DC 20418
Phone: (202) 334-1602
Fax: (202) 334-2153
Mailto: nasmembr@nas.edu
<http://www4.nationalacademies.org/nas/nashome.nsf/weblink/nominations-t3>

Louise Hay Award for Contributions to Mathematics Education**Association for Women in Mathematics (AWM)****Deadline:** October 01, 2003**Amount:** Unknown

Abstract: The Executive Committee of the Association for Women in Mathematics (AWM) established the Louise Hay Award for Contributions to Mathematics Education to be awarded annually to a woman at the joint prize session at the joint mathematics meetings every January. The purpose of this award is to recognize outstanding achievements in any area of mathematics education, to be interpreted in the broadest possible sense.

While Louise Hay was widely recognized for her contributions to mathematical logic and for her strong leadership as head of the Department of Mathematics, Statistics, and Computer

Science at the University of Illinois at Chicago, her devotion to students and her lifelong commitment to nurturing the talent of young women and men secure her reputation as a consummate educator. The annual presentation of this award is intended to highlight the importance of mathematics education and to evoke the memory of all that Hay exemplified as a teacher, scholar, administrator, and human being.

Contact:

The Hay Award Selection Committee
Association for Women in Mathematics
4114 Computer and Space Science Building
University of Maryland
College Park, MD 20742-2461
Phone: (301) 405-7892
Mailto: awm@math.umd.edu
<http://www.awm-math.org/hayaward.html>

Algebra, Number Theory, and Combinatorics**National Science Foundation (NSF)****Deadline:** October 07, 2003**Amount:** Unknown

Abstract: The Algebra, Number Theory, and Combinatorics program supports research in algebra, including algebraic structures; general algebra and linear algebra; number theory, including algebraic and analytic number theory; algebraic geometry; quadratic forms and automorphic forms; and combinatorics and graph theory.

Contact:

National Science Foundation
Directorate for Mathematical and Physical Sciences
Division of Mathematical Sciences
4201 Wilson Boulevard, Room 1025
Arlington, VA 22230
Phone: (703) 292-8870

http://www.nsf.gov/mps/divisions/dms/about/c_programs.htm#ant

Young Investigators Grant

National Security Agency (NSA)

Deadline: October 15, 2003

Amount: \$26,000

Abstract: The National Security Agency (NSA) Mathematical Sciences Program (MSP) is interested in supporting self-directed research in the following areas of mathematics: algebra, number theory, discrete mathematics, probability, and statistics. NSA is especially interested in supporting pure mathematics relating to the underlying theory, development, analysis, implementation, and application of mathematical algorithms in these areas. The Young Investigators Grant is available to promising investigators within ten years of beginning an academic career.

Contact:

Dr. Charles F. Osgood, Director
NSA Mathematical Sciences Program
and Mathematical Sabbatical Programs
National Security Agency
ATTN: R51A, Suite 6557
Fort George G Meade, MD 20755-6557
Phone: (301) 688-0400
<http://www.nsa.gov/programs/msp/grants.html>

Standard Grant

National Security Agency (NSA)

Deadline: October 15, 2003

Amount: Support will be given for no more than one month of summer salary each year for the principal investigator.

Abstract: The National Security Agency (NSA) Mathematical Sciences Program (MSP) is interested in supporting self-directed research in the following areas of **mathematics**: algebra, number theory, discrete **mathematics**, probability, and

statistics. NSA is especially interested in supporting pure **mathematics** relating to the underlying theory, development, analysis, implementation, and application of mathematical algorithms in these areas.

Support will be given for no more than one month of summer salary each year for the principal investigator, financial support for a named graduate student who is working for a degree for the investigator and miscellaneous expenses for supplies, travel, etc. The Standard Grant can also include support for workshops, postgraduate assistants and certain equipment purchases.

Contact:

Dr. Charles F. Osgood, Director
NSA Mathematical Sciences Program
and
Mathematical Sabbatical Programs
National Security Agency
ATTN: R51A, Suite 6557
Fort George G. Meade, MD 20755-6557
Phone: (301) 688-0400
<http://www.nsa.gov/programs/msp/grants.html>

Senior Investigators Grant

National Security Agency (NSA)

Deadline: October 15, 2003

Amount: The grant will pay no salary to the principal investigator but will provide partial support for one or more graduate students.

Abstract: The National Security Agency (NSA) Mathematical Sciences Program (MSP) is interested in supporting self-directed research in the following areas of mathematics: algebra, number theory, discrete mathematics, probability, and statistics. NSA is especially interested in supporting pure mathematics relating to the underlying theory, development, analysis, implementation, and application of mathematical algorithms

in these areas.

The purpose of this program is to support mathematical scientists who have demonstrated their effectiveness in the supervision of graduate students and who are actively pursuing research in one of the areas of mathematics funded by the NSA MSP. The grant will pay no salary to the principal investigator but will provide partial support for one or more graduate students. Support for travel, workshops, and equipment can be requested. In addition to describing the proposed research, the applicant should list the names of all graduate students who have received degrees under her or his direction in the last ten years. Each graduate student to be supported should be identified.

Contact:

Dr. Charles F. Osgood, Director
NSA Mathematical Sciences Program
and
Mathematical Sabbatical Programs
National Security Agency
ATTN: R51A, Suite 6557
Fort George G. Meade, MD 20755-6557
Phone: (301) 688-0400
<http://www.nsa.gov/programs/msp/grants.html>

Applied Mathematics

NSF

Deadline: November 04, 2003

Amount: Unknown

Abstract: The Applied **Mathematics** program supports research in any area of **mathematics** except probability and statistics. Research is expected to be motivated by or have an effect on problems arising in science and engineering, although intrinsic mathematical merit is the most important factor. Areas of interest include partial differential equations that model natural phenomena or that arise from problems

in science and engineering, continuum mechanics, reaction-diffusion and wave propagation, dynamical systems, asymptotic methods, numerical analysis, variational methods, control theory, optimization theory, inverse problems, **mathematics** of biological or geological sciences, and mathematical physics.

Contact:

National Science Foundation
Directorate for Mathematical and
Physical Sciences
Division of Mathematical Sciences
4201 Wilson Boulevard, Room 1025
Arlington, VA 22230
Phone: (703) 292-8870
http://www.nsf.gov/mps/divisions/dms/about/c_programs.htm#am

Computational Mathematics

National Science Foundation (NSF)

Deadline: December 06, 2003

Amount: Unknown

Abstract: The Computational Mathematics program supports research in algorithms, numerical and symbolic methods, and research in all areas of the mathematical sciences in which computation plays a central and essential role. The prominence of computation in the research is a key distinction between the Applied and Computational Mathematics programs.

Contact:

National Science Foundation
Directorate for Mathematical and
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Division of Mathematical Sciences
4201 Wilson Boulevard, Room 1025
Arlington, VA 22230
Phone: (703) 292-8870
http://www.nsf.gov/mps/divisions/dms/about/c_programs.htm#cm

Fields Medal (International Medal for Outstanding Discoveries in Mathematics) and Nevanlinna Prize International Mathematical Union (IMU)

Deadline: May 01, 2005

Amount: Four medals are awarded at the International Congress of Mathematicians (ICM) of the International Mathematical Union (IMU), which meets every four years.

Abstract: The Fields Medal is the pre-eminent international award in mathematics, comparable in stature to the Nobel prizes, which do not include a prize for mathematics. The medal is given to honour outstanding contributions to the field of mathematics. The Nevanlinna Prize is awarded for outstanding contributions in mathematical aspects of information sciences, including the following:

- i) All mathematical aspects of computer science, e.g., complexity theory, logic of programming languages, machine models, cryptography
- ii) Scientific computing, numerical analysis and optimization
- iii) Information theory, signal processing, control theory, and the modeling of intelligence.

Contact:

Professor Phillip Griffiths, Secretary of IMU

Institute for Advanced Study
Einstein Drive

Princeton, NJ 08540-0631

Fax: (609) 683-7605

Mailto: imu@ias.edu

<http://elib.zib.de/IMU/Nomination.html>