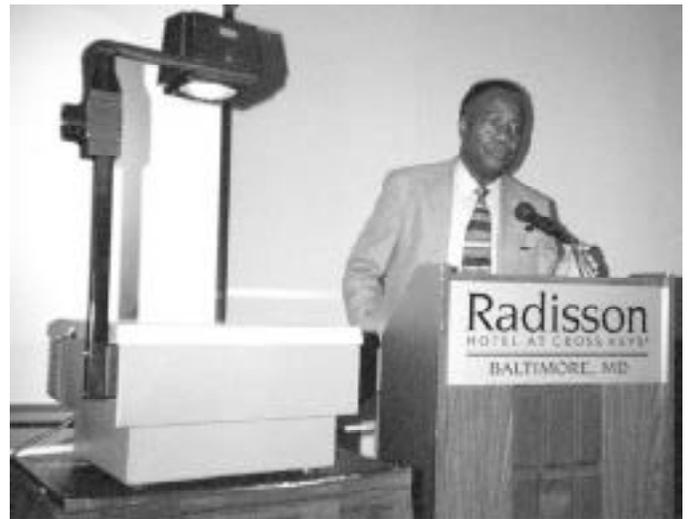




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ELECTIONS TO THE BOARD OF DIRECTORS

At the bottom of this page is a ballot section, please cut out the ballot, fill in the back, and mail it in.

The 2000 election campaign is for a three year term of each of three positions, Vice President, Region B Representative, Majority Institution Representative.

Region B consists of Connecticut, Delaware, District of Columbia, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Vermont, Virginia, Pennsylvania, Rhode Island, West Virginia.

The candidate for Vice President is Nathan Dean. The candidates for Region B Representative are William Hawkins, Fern Hunt, and Dominic Clemence. The candidates for Majority Institution Representative are Earl Barnes and Donald King. A short biography of each candidate can be found on the back of this page.

CANDIDATES BIOGRAPHIES

EARL BARNES : Earl R. Barnes earned his B.S. in Mathematics from Morgan State University and his Ph.D. in Mathematics from the University of Maryland. He worked twenty years at the IBM Research Center in Yorktown Heights, N.Y. He also held several academic appointments at the University of Wisconsin, Madison, M.I.T., and Columbia University. He was a visiting Professor at Spelman College. Barnes, whose research interests include linear algebra, and mathematical programming, has published nearly 40 mathematics papers and is the co-discoverer of the affine scaling algorithm, is the co-author of a forthcoming book on linear programming, and has been an associate editor of the IEEE Transactions on Automatic Controls. He is a Full Professor in the School of Industrial and Systems Engineering of Georgia Institute of Technology. He is a member of the Council for African American Researchers in the Mathematical Sciences. Dr. Barnes' home page is http://www.isye.gatech.edu/people/faculty/Earl_Barnes/

NATHANIEL DEAN : Nathaniel Dean obtained a B.S. from Mississippi State University, an M.S. from Northeastern University and his Ph.D. in mathematics from Vanderbilt University. In 1997 he received the President's Silver Award from Bell Laboratories, he served a term as the NAM Government and Industry Representative, and in 1998 he became an

continued on page 4

NATIONAL SCIENCE FOUNDATION IN THE CONGRESS

The House provided NSF \$4.064 billion for FY 2001, an increase of \$167.1 million, or 4.3 percent, over the FY 2000 appropriation, and a decrease of \$508.1 million from the President's budget request. Within NSF, the Research and Related Activities (RRA) account is provided \$3.136 billion, an increase of \$169.7 million over FY 2000 appropriation, but \$405.0 million below the President's request. The House provided the Education and Human Resources (EHR) account \$694.3 million, a decrease of \$2.29 million from FY 2000 and a decrease of \$34.7 million from the President's request. The report language accompanying the RRA section of the bill states that the Subcommittee used the same percentage increases, relative to the overall RRA increase, as outlined in the President's budget request.

continued on page 4

cut on the dotted line, place in an envelope, and mail it by October 15, 2000

BALLOT

DR. LEON WOODSON
Executive Secretary of NAM
Department of Mathematics
Morgan State University;
Baltimore, MD 21251-0001

ELECTIONS *continued from page 3*

Associate Professor of Computational and Applied Mathematics at Rice University. He co-organized CAARMS2 and CAARMS4, conferences for African American Researchers in the Mathematical Sciences. Dean's research includes graph theory, optimization, and data mining, and he has nearly 50 publications, including editing African Americans in Mathematics I and II. He has served as Managing Editor of the Journal of Graph Theory and now as Associate Editor of the AMS Notices. Dr. Dean's web page is <http://www.caam.rice.edu/~nated/>

WILLIAM HAWKINS : William Anthony Hawkins Jr. earned a B.S. in Mathematics from Howard University, an M.S. in Physics from Howard University, an M.S. and a Ph.D. in Mathematics from the University of Michigan. He teaches at the University of the District of Columbia, where he was Chair of the Mathematics Department in 1984-1989. In 1990 he became Director of the Mathematical Association of America's program SUMMA (Strengthening Underrepresented Minority Mathematicians). Currently he is Acting NAM Region B Representative. Dr. Hawkins' web page is <http://www.maa.org/summa/archive/HAWKINSW.HTM>

FERN HUNT : Fern Y. Hunt earned an A.B. in Mathematics from Bryn Mawr College, and an M.S. and Ph.D from New York University's Courant Institute of Mathematics. She taught at the University of Utah and at Howard University. She has worked for the National Institute of Health and the National Bureau of Standards. Presently she is a Research Mathematician with the Mathematical Modeling Group of the Applied and Computational Mathematics Division of the Computing and Applied Mathematics Laboratory of the National Institute of Standards and Technology. Dr. Hunt's research interests are in the measure theoretic aspects of dynamical systems. She has also published a number of papers in applications of probability. Dr. Hunt's web page is <http://math.nist.gov/~FHunt/index.html>

DONALD KING : A biography of Donald King can be found at http://www.math.buffalo.edu/mad/PEEPS/king_donaldr.html

DOMINIC CLEMENCE: Dominic Clemence's biography can be found at http://www.math.buffalo.edu/mad/PEEPS/clemence_dominicp.html

SCIENCE *continued from page 3*

Within EHR, Undergraduate Education was provided \$110,860,000. Within this amount, \$34,250,000 was been provided for Advanced Technological Education, an increase of \$5,000,000 over the FY 2000 level, and \$13,000,000, the same as in FY 2000, has been recommended for the National Science, Mathematics, Engineering, and Technology education (SMETE) Digital Library, which is aimed at the needs of undergraduate students and instructors. No funding has been provided for the Distinguished Teaching Scholars program or for the new Scholarships for Service (SFS) program.

For more detailed funding data on specific NSF programs, turn your browser to <http://www.jpbm.org/BudgetFigs.html>

DUES

Now is the time to pay your dues to NAM. See the last page for membership information.



BALLOT

CIRCLE THE CANDIDATE FOR WHICH YOU WISH TO VOTE:

Vice President

(uncontested)

Nathaniel Dean

Region B Representative

(Vote one):

William Hawkins

Fern Hunt

Dominic Clemence

Majority Institution Representative

(Vote one)

Earl Barnes

Donald King



CALENDAR

* **October 26-28, 2000,**
NAM's Undergraduate
MathFest Conference at Mor-
gan State University Baltimore
- Scott Williams is Wilkins Lecturer

* **January 10-13, 2001**
Joint Meetings NAM, AMS,
MAA in New Orleans 2001.
New Orleans Marriott Hotel &
ITT Sheraton New Orleans
Hotel - Bonita Saunders is
Claytor Lecturer

* Blackwell - Tapia Confer-
ence, Cornell University

* **June 19-22, 2001,**
CAARMS7 at Duke University,
organizers: William A. Massey
and Arlie O. Petters, sponsors:
Duke University, Morgan State
University and the National
Security Agency

* **July 9-13, 2001** SIAM An-
nual Meeting (Diversity Day),
Town & Country Hotel, San
Diego, CA

* **January 6-9, 2002,** Joint
Meetings NAM, AMS, MAA in
San Diego 2002, San Diego
Convention Center

* **July 8-12, 2002,** SIAM
50th Anniversary & Annual
Meeting, Philadelphia,
Marriott Hotel, Philadelphia,
PA (Diversity Day)

IN THE NEWS *continued from front page*

versus NP problem, the Hodge Conjecture, the Yang-Mills Existence and Mass Gap, the Navier-Stokes Existence and Smoothness; and the Birch and Swinnerton-Dyer Conjecture. The problems are accompanied with articles written by Stephen Cook, Pierre Deligne, Enricce Bombieri, Charles Fefferman; and Andrew Wiles. For more see <http://www.claymath.org/>

9. **Posters of African and African American Pioneers in Mathematics and**

Science : The National Society of Black Physicists has published a poster and a book; they each have the title "The African American Presence in Physics." For information write to Physics Poster; c/o Dr. Ronald Mickens; Clark Atlanta University, Box 172; Atlanta GA 30314. NAM has a poster available, while supplies last: "African and African American Pioneers in Mathematics" can be purchased for a small handling fee. Contact the Editor of the Newsletter.

FLEMMING AWARD TO HUNT

Fern Y. Hunt of the ITL Mathematical and Computational Sciences Division has received the prestigious Arthur S. Flemming Award. Hunt was recognized for a sustained record of fundamental contributions to probability and stochastic modeling, mathematical biology, computational geometry, nonlinear dynamics, computer graphics, and parallel computing. Hunt was also cited for the impact of her work in her extensive close collaborations with scientists and engineers seeking to apply these developments to diverse problems of scientific and technological interest. Examples include flow in complex geometries, modeling of micromagnetic devices, study of optical reflection, image rendering in computer graphics, and visualization of genetic sequences. Hunt was also cited for her outstanding dedication to the mathematics profession. She has been a mentor and leading proponent of careers in mathematics for students at the high school, undergraduate, and graduate levels, especially for women and minorities.

Established by the Downtown Jaycees in 1948, the Flemming Awards honor outstanding federal employees. More than 500 individuals have received the award to date. Nominees include any career federal employee with no more than fifteen years of government service. Twelve separate awards will be made in three categories - scientific, administrative, and applied science. The program is sponsored by George Washington University and Government Executive Magazine.

Hunt received the award on June 8, 2000 at the 51st annual Flemming Awards ceremony and banquet which was held at the Cosmos Club in Washington, DC.

ENDOWMENT

NAM's Endowment Campaign is necessary to reduce dependence upon ever dwindling government and foundation financial sources. Please consider participating. A form is near the back of the newsletter.

UNIVERSITY OF CALIFORNIA AT BERKELEY

Department of Mathematics • University of California at Berkeley • Berkeley, CA 94720

• CHARLES B. MORREY JR. ASSISTANT PROFESSORSHIPS

We invite applications for these special (nontenure-track) positions effective July 1, 2001. The terms of these appointments may range from two to three years. Applicants should have a recent Ph.D., or the equivalent, in an area of pure or applied mathematics. Applicants should send a resume, reprints, preprints and/or dissertation abstract, and ask three people to send letters of evaluation to The Vice Chair for Faculty Affairs at the above address. All letters of evaluation are subject to Berkeley campus policies on confidentiality of letters of evaluation, a summary of which can be found on our home page (<http://math.berkeley.edu> by clicking on People, and then Faculty Positions at Berkeley). We request that applicants use the AMS standardized application form and indicate their subject area using the AMS subject classification numbers. The form is the Academic Employment in Mathematics, Application Cover Sheet; it is available courtesy of the American Mathematical Society.

Applications must be postmarked by December 1, 2000. Applications postmarked after the deadline will not be considered. *The University of California is an Equal Opportunity, Affirmative Action Employer.*

.....

• TENURED OR TENURED TRACK POSITION

Pending budget approval, we invite applications for one or more positions effective July 1, 2001 at either the tenure-track (Assistant Professor) or tenured (Associate or Full Professor) level, in the general areas of pure or applied mathematics.

Tenure track applicants are expected to have demonstrated outstanding research potential, normally including major contributions beyond the doctoral dissertation. Such applicants should send a resume, and reprint or preprints, and/or dissertation abstract, and ask three people to send letters of evaluation to The Vice Chair for Faculty Affairs at the above address. It is the responsibility of the tenure track applicants to make sure that letters of evaluation are sent. All letters of evaluation are subject to Berkeley campus policies on confidentiality of letters of evaluation, a summary of which can be found on our home page (<http://math.berkeley.edu> by clicking on People, and then Faculty Positions at Berkeley).

Tenure applicants are expected to demonstrate leadership in research and should send a curriculum vitae, list of publications, a few selected reprints or preprints, and the names and addresses of three references to The Vice Chair for Faculty Affairs at the above address. Applicants should indicate whether they are applying for an Associate Professor or a Full Professor position. The department will assume responsibility to solicit letters of evaluation and will provide evaluators with a copy of the summary of policies on confidentiality of letters of evaluation.

All applicants are requested to use the AMS standardized application form and to indicate their subject area using the AMS subject classification numbers. The form is the Academic Employment in Mathematics, Application Cover Sheet, it is available courtesy of the American Mathematical Society.

Applications for both Tenure track and Tenure applications must be postmarked by November 15, 2000. Applications postmarked after the deadline will not be considered.

The University of California is an Equal Opportunity, Affirmative Action Employer.

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• TEMPORARY POSTDOCTORAL POSITIONS

Several temporary positions beginning in Fall 2001 are anticipated for new and recent Ph.D.'s of any age, in any area of pure or applied mathematics. The terms of these appointments may range from one to three years. Applicants for NSF or other postdoctoral fellowships are encouraged to apply for these positions. Mathematicians whose research interests are close to those of regular department members will be given some preference. Applicants should send a resume and reprints, preprints, and/or dissertation abstract, and ask three people to send letters of evaluation to The Vice Chair for Faculty Affairs at the above address. All letters of evaluation are subject to Berkeley campus policies on confidentiality of letters of evaluation, a summary of which can be found on our home page (<http://math.berkeley.edu> by clicking on People, and then Faculty Positions at Berkeley). We request that applicants use the AMS standardized application form and indicate their subject area using the AMS subject classification numbers. The form is the Academic Employment in Mathematics, Application Cover Sheet; it is available courtesy of the American Mathematical Society.

Applications must be postmarked by December 1, 2000. Applications postmarked after the deadline will not be considered. *The University of California is an Equal Opportunity, Affirmative Action Employer.*

NORTHWESTERN UNIVERSITY

Department of Mathematics • Northwestern University • 2033 Sheridan Road3 • Evanston, Illinois 60208-2730

•BOAS ASSISTANT PROFESSOR

Applications are solicited from people whose research is related to Algebraic Topology for two Ralph Boas assistant professorships of three years each starting in September 2001. These positions are non-tenure track and are part of the Emphasis Year in Algebraic Topology which the department will be sponsoring in 2001-2002.

Applications should be sent to the Emphasis Year Committee at the department address and include: (1) the American Mathematical Society's Application Cover Sheet for Academic Employment, (2) a curriculum vitae, and (3) three letters of recommendation including one which discusses in some detail the candidate's teaching qualifications. Inquiries may be sent via e-mail to [hiring@math.nwu.edu](mailto: hiring@math.nwu.edu). Applications are welcomed at any time, but the review process starts December 1, 2000. *Northwestern University is an affirmative action, equal opportunity employer committed to fostering a diverse faculty; women and minority candidates are especially encouraged to apply.*

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•TENURED OR TENURED TRACK POSITION

Applications are invited for anticipated tenure-track or tenured positions starting September 2001, pending final approval. Priority will be given to exceptionally promising research mathematicians. Fields of interest within the department include Algebra, Algebraic Geometry, Analysis, Dynamical Systems, Mathematical Physics, Probability, Partial Differential Equations, and Topology.

Application material should be sent to Personnel Committee, at the department address and include: (1) the American Mathematical Society's Application Cover Sheet for Academic Employment, (2) a curriculum vitae, and (3) at least four letters of recommendation including one which discusses in some detail the candidate's teaching qualifications. Inquiries may be sent via e-mail to [hiring@math.nwu.edu](mailto: hiring@math.nwu.edu). Applications are welcome at any time, but the review process starts in October 2000.

Northwestern University is an affirmative action, equal opportunity employer committed to fostering a diverse faculty; women and minority candidates are especially encouraged to apply.

BAYLOR UNIVERSITY

The Department of Mathematics invites applications for **TWO TENURE-TRACK POSITIONS**, starting August 2001. Please visit <http://www.baylor.edu/~Math/position.html> for details. Applications will be reviewed beginning October 15, 2000. To ensure full consideration, an application should be received by December 1, 2000, but applications will be accepted until the position is filled or the search is terminated.

Baylor is a Baptist university affiliated with the Baptist General Convention of Texas. As an Affirmative Action/Equal Employment Opportunity Employer, Baylor encourages minorities, women, veterans, and persons with disabilities to apply. The University has approximately 13,000 students. The Department has twenty-seven faculty members, currently offers the B.A., B.S., and M.S. degrees, and beginning in the fall of 2001, will offer the Ph.D. degree. Baylor University provides generous benefits including tuition remission for qualified family members.

UNIVERSITY OF MINNESOTA-MINNEAPOLIS

School of Mathematics

• DUNHAM JACKSON ASSISTANT PROFESSOR

This is a three-year appointment from fall semester, 2001 through spring semester, 2004 with a teaching load of 3 one-semester courses per academic year. Outstanding research and teaching abilities required. Preference will be given to applicants whose research interests are compatible with those of the School. Applicants should have received a Ph.D. or equivalent degree in mathematics no earlier than Jan. 1, 2000 and no later than August 26, 2001. Summer School teaching may be available during the summer of 2002 and 2003 to supplement regular stipend. Salary competitive. Consideration of applications will begin December 1, 2000 and continue until available positions are filled. Send letter of application, current curriculum vitae, minimum 3 letters of recommendation, and description of research to Naresh Jain, Head, School of Mathematics, University of Minnesota, 206 Church Street S.E., 127 Vincent Hall, Minneapolis, MN 55455. *The University of Minnesota is an equal opportunity educator and employer.*

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• TENURED OR TENURE TRACK POSITIONS

The School of Mathematics may have available several tenure track Assistant Professor or tenured Associate or Full Professor positions starting fall semester, 2001. Ph.D. or equivalent degree in mathematics by the beginning date of appointment, outstanding research and teaching abilities are required. Applications at all levels are invited; preference will be given to applicants whose research interests are compatible with those of the School. Consideration of applications will begin November 1, 2000 and will continue until available positions are filled. Send letter of application, current curriculum vitae, at least 3 letters of recommendation, and description of research to: Naresh Jain, Head, School of Mathematics, University of Minnesota, 127 Vincent Hall, 206 Church Street S.E., Minneapolis, MN 55455. *The University of Minnesota is an equal opportunity educator and employer.*

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• MATHEMATICAL MODELING

Future development of advanced biotechnology will depend on a better fundamental understanding of complex cellular processes. The Department of Mathematics and the Biological Process Technology Institute at the University of Minnesota seek an individual engaged in modelling and analysis of self-organization and biocomplexity at the cellular level for a joint appointment. Possible areas of concentration include: protein folding, biocatalysis, functional genomics or proteomics, analysis of complex metabolic or gene control networks, and molecular evolution.

This will be a tenure-track or tenured position, with the level of appointment to be commensurate with qualifications. Ph.D. in mathematics or a related field is required by the beginning date of appointment. Salary competitive. Consideration of applications will begin November 1, 2000 and will continue until position is filled. Send curriculum vitae, description of research, and a minimum 4 letters of recommendation to: Professor Hans Othmer, School of Mathematics, University of Minnesota, 127 Vincent Hall, 206 Church Street SE, Minneapolis MN 55455; Phone (612) 624-8325. See also <http://www.math.umn.edu>; *The University of Minnesota is an equal opportunity educator and employer.*

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• TEMPORARY OR VISITING POSITIONS

Several temporary or visiting positions at all levels (Lecturer, Assistant, Associate or Full Professor) may be available for terms ranging from one semester to two years beginning fall semester, 2001. Ph.D. or equivalent degree in mathematics by beginning date of appointment, strong research and teaching abilities are required. Preference will be given to applicants whose research interests are compatible with those of the School. Salary competitive. Consideration of applications will begin December 1, 2000 and continue until available positions are filled. Send letter of application, current curriculum vitae, at least 3 letters of recommendation and description of research to Naresh Jain, Head, School of Mathematics, University of Minnesota, 206 Church Street S.E., 127 Vincent Hall, Minneapolis, MN 55455. *The University of Minnesota is an equal opportunity educator and employer.*

WESLEYAN COLLEGE

Department of Mathematics and Computer Science

The Department of Mathematics and Computer Science invites applications for a senior position in mathematics to begin in the academic year 2001-2002. Candidates for this position must have a Ph.D. in mathematics and are expected to have strong records in research, teaching, and leadership.

• PROFESSOR/ASSOCIATE PROFESSOR OF MATHEMATICS

We seek candidates for a tenured appointment. We are particularly interested in candidates who can support the department's long-standing activity in dynamical systems. Outstanding candidates in all areas of mathematics are encouraged to apply.

Note: We anticipate two junior level openings in the department as well; these will be advertised later in the fall.

Normal teaching duties in mathematics are two courses per semester. These courses range from calculus to graduate topics. It is expected that the successful candidate will assume an active leadership role in the department, including advising doctoral students, participating in the appointment of junior faculty, and chairing the department in due course.

Wesleyan University is committed to increasing the diversity of its faculty and is an equal opportunity/ affirmative action employer.

Applications must be submitted by October 27, 2000, and early application is welcome. Applicants should arrange for at least four letters of recommendation, including one which evaluates teaching, to be sent to the address below.

All correspondence and applications should be submitted to: Mathematics Search Committee; Department of Mathematics; Wesleyan University; Middletown, CT 06459

Email inquiries may be directed to [mathjobs@ wesleyan.edu](mailto:mathjobs@wesleyan.edu). More information concerning the Department of Mathematics and Computer Science and about Wesleyan University can be found via <http://www.math.wesleyan.edu/>

INSTITUTE FOR ADVANCED STUDY

The Institute for Advanced Study School of Mathematics has a limited number of memberships, some with **financial support for research in mathematics** at the Institute during the 2001-02 academic year. Candidates must have given evidence of ability in research comparable at least with that expected for the Ph.D. degree. **Yakov Eliashberg** will be the Distinguished Visiting Professor during the 2001-02 academic year, and he will be organizing a program on holomorphic curves and their applications.

The School of Mathematics and the Department of Mathematics at Princeton University have established the Veblen Research Instructorship, and three-year instructorships will be offered each year to candidates who have received their Ph.D. within the last three years. The first and third year of the instructorship will be spent at Princeton University and will carry regular teaching responsibilities. The second year will be spent at the Institute and dedicated to independent research of the instructor's choice.

Application materials for both the **IAS MEMBERSHIPS** and the **VEBLEN INSTRUCTORSHIP** positions may be requested from Applications, School of Mathematics, Institute for Advanced Study, Einstein Drive, Princeton, NJ 08540, 609-734-8112, e-mail: Applications@math.ias.edu. Forms may be downloaded but not submitted via a web connection to: <http://www.math.ias.edu>

Both application deadlines are December 1, 2000

LOYOLA MARYMOUNT UNIVERSITY

• CLARENCE J. WALLEN, S.J. ENDOWED CHAIR IN MATHEMATICS

The Mathematics Department of Loyola Marymount University invites applications for the Clarence J. Wallen, S.J. Endowed Chair in Mathematics. The individual holding the Chair shall teach two classes per semester, carry out his/her own research agenda, develop programs that involve the undergraduate mathematics majors in research or professional activities and engage in departmental and University service. Individuals working in any mathematical area, including mathematics education (especially K-12 teacher preparation), are invited to apply.

The appropriate candidate will have an established scholarly and academic record and should be able to demonstrate success at involving undergraduates in research or professional activities. The appointment to the endowed Chair will be provided a competitive salary at the rank of associate or full professor and budgetary support for program development and research activities. Applications must include a letter of interest that briefly outlines a plan for the development of a program that will involve undergraduates in research or professional activities, a curriculum vita and the names of three references. References may be contacted during the initial screening of applications; finalists for the position will be asked to provide three letters of reference.

We will begin screening applications on October 16, 2000 but will continue to accept applications until the position is filled. The appointment could begin either in the Spring of 2001 or in the Fall of 2001.

Loyola Marymount University is a comprehensive Catholic university whose focus is excellence in undergraduate education. The Mathematics Department, housed within the University's College of Science and Engineering, is a community of fifteen full-time faculty members and 30-40 mathematics majors who work in an atmosphere of mutual respect and collegiality. Additional information about the LMU Mathematics Department and this position can be found on the web at <http://www.lmu.edu/math>

Please send applications and inquiries to: Dr. Gerald Jakubowski; Dean, College of Science and Engineering; Loyola Marymount University; 7900 Loyola Boulevard; Los Angeles, CA 90045-8135; gjakubow@lmumail.lmu.edu; 310-338-2834

BENTLEY COLLEGE

Department of Mathematical Sciences

The Bentley College Mathematical Sciences Department anticipates a **FULL-TIME TENURE TRACK POSITION** starting in fall, 2001. Candidates must possess an earned doctorate prior to start of employment. Those with backgrounds in Statistics, Quantitative Methods, Actuarial Science or other quantitative business areas are especially encouraged to apply. Excellence in teaching, as well as strong research potential, is essential. Experience in applied information technology is also highly desirable. Additional responsibilities include service to the institution and the department.

Interested candidates should send a resume and arrange to have three letters of reference sent to: Dr. Marilyn B. Durkin, Chair; Department of Mathematical Sciences; Bentley College; 175 Forest Street; Waltham, MA 02452-4705; (781) 891-2702; fax: (781) 891-2457; e-mail: mdurkin@bentley.edu

For best consideration **all materials should be received by November 1, 2000**

Interviews will be conducted at the DSI Annual Meeting in Orlando in November 2000 and at the AMS/MAA Joint Meetings in New Orleans in January 2001. Please inform us if you plan to attend of these meetings.

Bentley College is an equal opportunity employer building strength through diversity. Please visit us on the web at www.bentley.edu.

UNIVERSITY OF ILLINOIS AT CHICAGO

Mathematics, Statistics, and Computer Science

The Department has active research programs in all areas of pure mathematics, computational and applied mathematics, combinatorics and computer science, statistics, and mathematics education. See <http://www.math.uic.edu> for more information. Applications are invited for the following positions, effective August 21, 2001.

• TENURE TRACK OR TENURED POSITION

Candidates in all areas of interest to the Department will be considered. The position is initially budgeted at the Assistant Professor level, but candidates with a sufficiently outstanding research record may be considered at higher levels. Applicants must have a Ph.D. or equivalent degree in mathematics, computer science, statistics, mathematics education or related field, an outstanding research record, and evidence of strong teaching ability. Salary negotiable.

• RESEARCH ASSISTANT PROFESSORSHIP/VIGRE POSTDOCTORAL FELLOWSHIP

This is a non-tenure track position, normally renewable annually to a maximum of three years. This position is partially funded by a VIGRE grant from the NSF and is open only to U.S. citizens, nationals or permanent residents. The position carries a teaching load of one course per semester, with the requirement that the incumbent play a significant role in the research life of the Department. The salary for AY 2001-2002 for this position is expected to be \$45,000; in each of the first two years the VIGRE grant provides an additional \$6,000 for summer support. Applicants must have a Ph.D. or equivalent degree in mathematics, computer science, statistics, mathematics education or related field, and evidence of outstanding research potential.

Send vita and direct 3 letters of recommendation, clearly indicating the position being applied for, and whether you are eligible for a VIGRE fellowship, to: Appointments Committee; Dept. of Mathematics, Statistics, and Computer Science; University of Illinois at Chicago; 851 S. Morgan (M/C 249); Chicago, IL 60607.

No e-mail applications will be accepted. **To ensure full consideration, materials must be received by October 31, 2000.**

Minorities, persons with disabilities, and women are particularly encouraged to apply. UIC is an AA/EOE.

VIRGINIA TECH

Department of Mathematics

The Department of Mathematics at Virginia Tech seeks applicants to fill a tenure track position in **ANALYSIS AT THE ASSISTANT OR ASSOCIATE PROFESSOR** level. Applicants must have an earned doctorate in mathematics or equivalent at time of appointment. Applicants must have an active research program in analysis. We are particularly interested in applicants who can complement and enhance existing strengths in the Department. More detailed information about the position, the Department, university and surrounding region is available at <http://www.math.vt.edu>. Salary is negotiable, depending on background and experience. Starting date is August, 2001 or as appropriate.

Applicants must send a letter of application, a curriculum vitae, a summary of research plans, together with four letters of recommendation to: Joseph A. Ball, Chair, Analysis Search Committee, Department of Mathematics, Virginia Tech, Blacksburg, VA 24061-0123. For full consideration, **applications should be received by December 1, 2000**. However, applications and nominations will be considered until the position is filled.

Virginia Tech is an equal opportunity/affirmative action employer and complies with all Federal and Commonwealth of Virginia laws, regulations, and executive orders regarding affirmative action requirements in all programs. The College of Arts and Sciences at Virginia Tech is deeply committed to recruiting, selecting, promoting, and retaining women, persons of color, and persons with disabilities. We strongly value diversity in the college community, and seek to assure equality in education and employment. Individuals with disabilities desiring accommodations in the application process should contact Pat Ray, Department of Mathematics, 540-231-6536. (TDD/PC 1-800-828-1120 -Voice 1-800-828-1140).

PURDUE UNIVERSITY

Department of Mathematics

Applications are invited for **TENURE-TRACK ASSISTANT PROFESSOR** or **THREE-YEAR RESEARCH ASSISTANT PROFESSOR** appointments beginning August 2001. Ph.D. by August 2001, exceptional research promise, and strong teaching record required.

Applications will also be accepted for possible appointments at the Associate Professor/Professor level. Ph.D. and excellence in research and teaching required.

Outstanding applicants from all mathematical research areas will be considered. Because the department has several openings in applied mathematics, candidates who have significant research accomplishments in applied mathematics or computational applied mathematics are especially encouraged to apply.

Several positions may be available for terms ranging from one semester to two years beginning August 2001.

All applicants should have research interests in common with Purdue faculty. Send vita, summary of research interests/plans, and arrange for three letters of recommendation (one addressing teaching) to be sent to: Carl Cowen, Head, Department of Mathematics, Purdue University, West Lafayette, IN 47907-1395.

Review of applications will begin November 15, 2000 and continue until available positions are filled. Offers for tenure-track positions may be made at any time; some offers for RAP and visiting positions will be made before the end of January 2001.

Purdue is an Affirmative Action/Equal Opportunity Employer.

BRYN MAWR COLLEGE

Mathematics Department

The Mathematics Department of Bryn Mawr College invites applications for a tenure track position in applied mathematics at the rank of **ASSISTANT PROFESSOR**, to start in the Fall Semester of 2001 (pending final administrative approval). Candidates must have completed a doctorate in mathematics or an allied field by the starting date and must show promise in research and a serious commitment to undergraduate and graduate teaching. Preference will be given to applicants with interests in interdisciplinary collaboration and in engaging undergraduates in their research.

Applications should include a curriculum vitae, a description of research, a statement of teaching philosophy, and three or more letters of reference, at least one of which discusses the applicant's teaching. The review of applications will begin on January 1, 2001 and continue until the position is filled. All materials should be sent to: Mathematics Search, Department of Mathematics, Bryn Mawr College, Bryn Mawr, PA 19010

For more information, consult <http://www.brynmawr.edu/mathsearch>

Bryn Mawr is an exceptional liberal arts college for women with coeducational graduate programs in sciences, some humanities, and social work. The College supports faculty excellence in both teaching and research, and provides a rigorous education in the context of a diverse and pluralistic scholarly community. Located 11 miles west of Philadelphia, Bryn Mawr participates in consortial programs with the University of Pennsylvania, Haverford and Swarthmore Colleges. *Bryn Mawr College is an equal-opportunity, affirmative action employer. Members of underrepresented groups are especially encouraged to apply.*

DEPARTMENT OF ENERGY IN THE CONGRESS

The House provided a total of \$17.3 billion for the Department of Energy, \$686.5 million above the FY 2000 level but \$852.8 million below the President's request. Science programs received \$2.83 billion, \$43.3 million above the FY 2000 level but \$320 million below the President's request.

The Advanced Scientific Computing Research Initiative (ASCR) received \$137 million, \$5 million above the FY 2000 level but \$44.9 million below the President's budget request. Applied Mathematics is funded through this initiative; the President had requested \$33.1 million for Applied Mathematics, an increase of \$9.7 million or 41.5 percent, and while it is unclear what the effect of the House bill's underfunding of the ASCR program will have on the Applied Mathematics account, it is likely that it will not receive the full amount requested by the President. In the Senate, \$139.97 million was provided for the ASCR initiative. While this amount is slightly higher than that provided in the House bill, it is still more than \$40 million below the President's request, again raising concerns about the level of funding for Applied Mathematics research within ASCR.

The final bill conferenced between the House and the Senate may yet contain significantly more funding for this and other DOE programs; during consideration of the bills on the House floor and in the Senate Appropriations Subcommittee, many Members of Congress commented that they hope more funding can be found by the end of the fiscal year to increase spending for DOE science programs.



SPOTLIGHT ON A MATHEMATICIAN

BY JOHNNY L. HOUSTON

JAPHETH HALL, JR., PH.D. 1929 - 1980

"Education is a treasure which no misfortune can decrease, no crime can destroy, no enemy can remove, no despotism can enslave; at home a friend, abroad an introduction, in solitude a solace, and in society an ornament." Japheth Hall, Jr.'s View of Education.

Japheth Hall, Jr. was born in Jefferson County, Alabama, the second of eleven children to Rev. and Mrs. Japheth Hall, Sr. on August 1, 1929. He grew up in a Christian atmosphere in the midst of a loving and devoted close-knit family. As a small child, the educational life of Japheth Jr. began in Jefferson County Public School, graduating later from Westfield High School. After high school graduation, he joined the U.S. Navy where his desire for more education heightened. After completing his tour of duty to his country, he enrolled in Alabama State University in Montgomery, Alabama where he earned the B.S. degree in Mathematics in 1952, graduating Magna Cum Laude. While attending college, he was inducted into Beta Kappa Chi, an honorary science fraternity, and Alpha Phi Alpha Fraternity, Inc. Japheth met Annie Ruth Jones and they were united in holy matrimony March 13, 1954. To make their lives fuller and more beautiful, they were blessed with a lovely daughter, Kathryn Carmel. For several years, Japheth Hall, Jr. used his educational talents to foster training for boys and girls in Thomasville and Tuscaloosa Public Schools in Alabama. Japheth Hall Jr. then further prepared himself for service by continuing his educational preparation. He received his M.S. degree in mathematics from the University of Illinois in 1957. He joined the Faculty of Stillman College in 1960 and dedicated himself to the institution for the remainder of his life. While at Stillman, he earned the Ph.D. degree in Mathematics from the University of Alabama in Tuscaloosa in August 1970. While serving Stillman as Professor and Chairman of the Department of Mathematics during the 1970's, he was productive as a research scholar. He published the following four articles in research journals: (1) *Independence in combinatorial geometries of rank three*. *Canad. Math. Bull.* **18** (1975), no. 2, 217-221. (2) *Covering dimension in finite-dimensional metric spaces*. *Proc. Amer. Math. Soc.* **41** (1973), 274-277. (3) *The independence of certain axioms of structures in sets*, *Proceedings of the AMS* **31** (1972), 317-325. (4) *A condition for equality of cardinals* his leadership in NAM. He conducted a summer Mathematics Talent Program for Junior High and High School Students in Alabama in 1967 and 1968 and he accepted the position as NAM's President in 1975 after being elected Vice-President in 1973. He served as President of NAM until 1976. At NAM's National Meeting in San Antonio, Texas in January 1976, Dr. Hall gave one of the invited scholarly addresses for NAM. His leadership qualities and scholarly talents were highly appreciated by NAM and the larger mathematical sciences community. Among several recognitions that he received were his appointment as a member of the Alabama Academy of Science and a distinguished service award provided posthumously by NAM. He was also elected to Alpha Kappa Mu Honor Society. I was a mathematics faculty member at Stillman for two years under the leadership of Dr. Hall. He was an inspiring teacher and a scholar with a mission to educate others, especially the young. He was a decent, generous, gentle and intellectual human being who inspired many to want to emulate him as a professional. In August 1979, Dr. Hall and I had our last conversation during a visit I made to Tuscaloosa. He departed this life on March 18, 1980 after twenty years of service at Stillman and after suffering with some health problems for several months. Dr. Hall was NAM's third elected president.



THE PRESIDENT'S PERSPECTIVE

THE CLASSICAL FOUR 4'S PROBLEM

A fascinating mathematical brain teaser is the Classical four 4's Problem: Using any mathematical operation, but exactly four 4's to construct the natural numbers. Some are quite easy, however, others require real imagination and creativity. For example,

$$\frac{4}{4} - (4 - 4) = 1; \quad \frac{4}{4} + \frac{4}{4} = 2; \quad \frac{4 + 4 + 4}{4} = 3; \quad 4 + \frac{4 - 4}{4} = 4; \quad \frac{4 \times 4 + 4}{4} = 5$$
$$4 + \frac{4 + 4}{4} = 6; \quad 4 + 4 - \frac{4}{4} = 7; \quad 4 + 4 + (4 - 4) = 8; \quad 4 + 4 + \frac{4}{4} = 9.$$

It is not quite as easy to construct the number 10. In fact, you need to shift your thinking a little to come up with a construction for 10. Would you have thought of that way to do it? Can you come up with a different construction for 10 and some of the others I have given.

$$\frac{44 - 4}{4} = 10; \quad \frac{44}{\sqrt{4}\sqrt{4}} = 11; \quad \frac{44 + 4}{4} = 12; \quad \frac{4!}{\sqrt{4}} + \frac{4}{4} = 13; \quad 4 + 4 + 4 + \sqrt{4} = 14;$$
$$4 \times 4 - \frac{4}{4} = 15; \quad 4 + 4 + 4 + 4 = 16; \quad 4 \times 4 + \frac{4}{4} = 17;$$
$$4 \times 4 + \frac{4}{\sqrt{4}} = 18; \quad 4! - (4 + \frac{4}{4}) = 19; \quad 4 \times 4 + \sqrt{4} + \sqrt{4} = 20.$$

Can you do the constructions of the numbers 21 through 50. The number 50 is relatively easy. Here is my version $44 + 4 + \sqrt{4} = 50$. Try to find another construction for 50.

$\frac{4}{.4} \times \frac{4}{.4}$ is my four 4's construction for 100. Can you develop another? With the help of the students at the 1999 NAM Summer Institute, I now have at least one construction for the first 50 natural numbers, but not the first 100.

Another interesting question is: What is the largest number that can be constructed using only four 4's? Surely you can construct one bigger than 4^{444} .

WHAT IS DATA MINING?

Modern computing facility has exacerbated the growing gap between the *generation* of data and our *understanding* of it. In other words: As the volume of data increases, inexorably, the proportion of it that people "understand" decreases rapidly. It is hard to find examples of anything, anywhere that has changed as fast as the quantity of stored information. While the information explosion has created new opportunities, it has also generated many new headaches in every field, from engineering to manufacturing to marketing to medicine, and to science in general. A few examples will give some appreciation for how fast the world's store of information has grown in recent years.

EXAMPLE 1: In 1900, the world population was 1.6 billion. Now the population is well over 6 billion. This is a factor of 3.75 over the century.

EXAMPLE 2: In 1900, the longest journey one could reasonably make was about 25,000 miles - the distance required to circumnavigate the earth. In 1969, the round trip distance to the moon was about 475,000 miles, which is 19 times as far.

VOTE

Use the ballot to vote for candidates for the NAM Board of Directors.

EXAMPLE 3: In 1906 the Stanley twins established a world land speed record driving 122 miles per hour. The speed for the trip to the moon was close to 25,000 miles per hour-223 times as fast.

These are all impressive growths. However, they are next to nothing compared to the growth in corporate data. At the beginning of the twentieth century, no company had more than a few megabytes of data contained in ledgers, order books, and files. Today, the largest corporate data bases are measured in terabytes. That is to say, some corporate data has grown by a factor of 100,000. In fact, there are single companies that have as much data as is contained in all the books in the Library of Congress.

Data Mining is the **process** of exploration and analysis, by automatic or semi-automatic means, of large quantities of data in order to discover meaningful patterns and rules. The word "process" is bold because data mining is a discipline rather than a product. The process includes a specific set of activities, all of which involve extracting meaningful new information from the data. The six activities are:

- Classification
- Estimation
- Prediction
- Affinity grouping
- Clustering
- Description and visualization

For more detail on these six activities, I refer you to Berry and Linoff (2000), John Wiley & Sons and Witten and Frank (2000), Morgan Kaufmann Publishers.

PAST CONFERENCES

CAARMS6, the Conference for African American Researchers in the Mathematical Sciences was held June 27-30, 2000 at Morgan State University. There numerous posters presented by graduate students. The speakers were



Idris Assani,
University of North
Carolina (Chapel Hill)



Carlos Handy,
Clark Atlanta University

other speakers included:

- Robert Bell,** AT&T Labs Research
Dominic Clemence, North Carolina A&T University
Edray Goins, Institute for Advanced Study
Carl Graham, CNRS, École Polytechnique
Charles Hagwood, National Institute of Standards and Technology
Johnny Houston, Elizabeth City University
Parry Husbands, Lawrence Berkeley Labs
Donald King, Northeastern University
Kathryn Lewis, Morehead College
Gaston N'Guérékata, Morgan State University
Margaret Wright, Bell Labs, Lucent Technologies



Physicists **Carl Clark** and **Julius Taylor** and mathematician/physicist **J. Ernest Wilkins**. More at the CAARMS6 web page: <http://cm.bell-labs.com/who/will/caarms6.html>

VOTE

Use the ballot to vote for candidates for the NAM Board of Directors.

DUES

Now is the time to pay your dues to NAM. See the last page for membership information.

ENDOWMENT

NAM's Endowment Campaign is necessary to reduce dependence upon ever dwindling government and foundation financial sources. Please consider participating. A form is near the back of the newsletter.

THE NAM BLACKWELL LECTURE

In 1994 NAM established a Lecture series in honor of the great African American Mathematician David Blackwell. The Lecture is given annually at the AMS/MAA Summer Meeting. This year's meeting was held in Los Angeles, California August 6 to 12. The Blackwell Lecture was given by Dr. Arlie Petters, the William & Sue Gross Professor of Mathematics at Duke



Arlie Petters (l) and
Jacqueline Giles (r)

SIAM DIVERSITY DAY

Fourth SIAM Graduate Student Focus on Diversity: A Day for Underrepresented Minorities. Diversity Day was conceived by Margaret Wright, President of SIAM. This event is a chance for undergraduate and graduate students to listen to technical talks given by fellow underrepresented minority graduate students.



Organizers:

USA: Carlos Castillo-Chavez, Cornell University and William Massey, Bell Laboratories, Lucent Technologies

Puerto Rico: Pablo V. Negron-Marrero, University of Puerto Rico - Humacao and Pablo Tarazaga, University of Puerto Rico - Mayaguez

Speakers:

- * *On the Design of L_p FIR Digital Filters*, Ricardo A. Vargas, Rice University
- * *Protein Structure Analysis Using the Singular Value Decomposition*, Rachel E. Vincent, Rice University
- * *Density Based Image Analysis*, Harold Figueroa, Cornell University
- * *Combinatorial Analysis of the Dynamics of Decision Systems*, Rebecca E. Pablo, New Mexico State University
- * *A Single Climax Species Two-Class Population Model*, Shurron M. Farmer, Howard University
- * *Estimating Airport Arrival Capacity Distributions for Air Traffic Flow Management*, Tasha R. Inniss, University of Maryland, College Park
- * *Computational Fluid Dynamics: Rayleigh-Benard Convection Inside a Hele-Shaw Cell*, Idris Stovall, University of Massachusetts, Amherst
- * *Nonconforming Domain Decomposition Method Applied to Viscosity Solutions of Implicit PDEs*, Luis A. Melara, Rice University

* Evening Programs:

- Pizza Get-together for Diversity Workshop Participants
- The Real Deal* — An informal graduate student session: Moderator: Richard A. Tapia, Rice University

USA TEAM EXCELS AT THE 2000 INTERNATIONAL MATHEMATICAL OLYMPIAD

Competing against teams representing 82 countries, a team of six American high school students won six medals at the 41st International Mathematical Olympiad (IMO) held in Taejon, South Korea, July 19 and 20, 2000. Two representative questions that appeared on the 2000 IMO are as follows:

Problem 2. Let a, b, c be positive real numbers such that $abc = 1$. Prove that $(a - 1 + 1/b)(b - 1 + 1/c)(c - 1 + 1/a) \leq 1$.

Problem 4. A magician has one hundred cards numbered 1 to 100. He puts them into three boxes, a red one, a white one and a blue one, so that each box contains at least one card. A member of the audience selects two of the three boxes, chooses one card from each and announces the sum of the numbers on the chosen cards. Given this sum, the magician identifies the box from which no card has been chosen.

How many ways are there to put all the cards into the boxes so that this trick always works? (Two ways are considered different if at least one card is put into a different box.)

VICE PRESIDENT RESIGNS

Dr. James Turner, Florida State University, resigned his position as Vice President of NAM.

NAM'S ENDOWMENT CAMPAIGN 1999-2000

"A CAMPAIGN FOR THE PERPETUITY OF NAM"

PLEDGE – CONTRIBUTION FORM

The principal of the campaign is never to be spent; only the interest and dividends received from the investment of these funds may be spent. (All life memberships will go toward NAM's campaign)

To help with the success of this campaign, we are requesting all members and friends of NAM to contribute what you can and to assist NAM by helping NAM to locate other contributors.

Please pledge the amount that you desire to contribute and please honor all pledges (where feasible) by paying in amount of \$100.00 or more each payment toward the pledge. Persons may pay for a Life Membership over a period of one year by making four payments of \$100.00 each.

Send to: Dr. Robert E. Bozeman, Secretary-Treasurer, NAM; Depart. of Mathematics;
Morehouse College; Atlanta, GA 30314; (404) 215-2613 (office); rbozeman@morehouse.edu

PLEDGE/CONTRIBUTION LEVELS

All contributions are tax deductible. (Please make checks payable to NAM's Endowment Campaign)

1. Life Membership (LM) in NAM \$400
2. Bronze (B) \$500 - 999
3. Silver (S) \$1,000 - 4,999
4. Gold (G) \$5,000 - 9,999
5. Diamond (D) \$10,000 - 24,999
6. Platinum (P) \$25,000 - 99,999
7. Double Platinum (DP) \$100,000 - 249,999
8. Triple Platinum (TP) \$250,000 and higher

*(Any contribution of \$500 or more from an individual will include life membership upon request)

Enclosed is my pledge/contribution in the amount of \$ _____

Name: _____ Title: _____

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Highest Degree: Year () Awarding Institution _____

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Do you desire a Life Membership in NAM? Yes No

NATIONAL ASSOCIATION OF MATHEMATICS MEMBERSHIP FORM

For new applications and Annual Membership Renewal
Membership Calendar Year January 1 – December 31

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Address _____

Institution/Employer _____

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SELECT APPROPRIATE MEMBERSHIP TYPE

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|--|--|--|
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(404) 215-2613 (office)
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Web page: (new) <http://www.math.buffalo.edu/mad/NAM/NAM-index.html>

INDIVIDUALS AND STUDENTS : Please complete below if you did not send NAM this information within the past three years.

List all degrees you currently hold. Circle the correct degree.

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Ph.D. or Ed.D. : Area _____	Institution _____
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The EDITOR
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