

**NATIONAL ASSOCIATION OF MATHEMATICIANS, INC.
MISSION, PURPOSE, AND STRATEGIC PLAN FOR 2016-2019**

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2019 will mark NAM's 50th year as a viable professional organization in the mathematical sciences. This is a significant milestone for both the organization in particular and the Mathematical Sciences Community in general. NAM's past is an illustrious one. So many people have contributed in so many different ways to bring NAM to where it is today. Yes, NAM has an outstanding past to cherish. As NAM embarks upon its second quarter century of existence, The Board of Directors, indeed, the entire organization, plans to use the legacy of the past as the foundation on which a more formidable organization will be established to meet the challenges of the future.

There is no doubt that there is as great or a greater need for NAM today as there was in 1969 when NAM was first founded. The challenges that NAM and the Mathematical Sciences Community face today are both real and awesome, especially as they relate to under-represented American minorities. NAM as a professional organization in the Mathematical Sciences, with a large portion of its membership being "underrepresented minorities", needs to provide even greater services and impacts in the future. The Higher Education Act defines the term "underrepresented minority" as an American Indian, Alaskan Native, Black (not of Hispanic origin), Hispanic (including persons of Mexican, Puerto Rican, Cuban, and Central or South American origin), Pacific Islander, or other ethnic group underrepresented in science and engineering. For more information, see

<http://www.ed.gov/about/offices/list/ocr/edlite-minorityinst-list.html>

MISSION AND PURPOSE

The original charter of NAM declared the mission and purpose of the National Association of Mathematicians, Inc. (NAM). The fundamental mission and purposes have remained the same. *The National Association of Mathematicians, Inc. is a non-profit professional organization in the mathematical sciences with membership open to all persons interested in the mission and purpose of NAM which are: (1) promoting excellence in the mathematical sciences and (2) promoting the mathematical development of all underrepresented minorities.*

The mission and associated purposes lead to the following specific major goals of NAM.

- To engage in activities, projects, programs, conferences, workshops, seminars, etc. which are designed to inspire, motivate, promote, and assist persons of all ages to seek, embark or maintain an active interest/career affinity in some area(s) of the mathematical sciences.
- To identify and seek viable solutions to problems relevant to the education of all students and at all levels in the mathematical sciences.
- To promote and assist in the continued professional development of practicing mathematical scientists and educators, especially those groups that are underrepresented in the mathematical sciences.
- To support the continued development of excellence in teaching and curriculum enhancement in the mathematical sciences, especially at Historic Black Colleges and Universities/Minority Institutions
- To advocate, promote and support research in the mathematical sciences, especially for underrepresented minorities.
- To increase the mathematical sciences community and general public's awareness of issues of importance in areas of the mathematical sciences, especially those that are of great interest to underrepresented minorities.
- To annually produce various publications about the affairs of NAM and about the status of underrepresented minorities in the mathematical sciences

- To develop and maintain databases regarding baseline data on mathematical professionals and students who are underrepresented minorities and
- To solicit and aid in the soliciting of funds for the realization of the aforementioned goals.

Program Goals. The mission, purposes, traditions and general goals of NAM lead to six major program goals toward which most activities of NAM are aimed: *mathematics education, professional development, scholarly productivity, students, databases, and public policy.* These goals express the mission of NAM in practical terms.

A. *Mathematical Education*

Stimulate active learning, promote effective teaching, and encourage appropriate and fair assessment in the mathematical sciences for all persons.

B. *Professional Development*

Foster mathematical professional development, especially for underrepresented minorities.

C. *Scholarly Productivity*

Encourage research and scholarly productivity among all mathematical professionals, especially underrepresented minorities.

D. *Students*

Enhance the interest, talents, and achievements of all individuals in the mathematical professions, especially underrepresented minorities.

E. *Databases*

Establish, maintain, and constantly update current and accurate databases on underrepresented minorities.

F. *Public Policy*

Influence societal, institutional and public policy through effective advocacy regarding the needs, uses and importance of the mathematical sciences for all persons in our society.

Operational Goals. In addition to the program goals that directly support NAM's mission, other goals are necessary for effective and efficient operations of NAM. These operational goals enable NAM to remain viable, to work effectively toward its mission, and to carry out its program goals.

A. *Organized Institutional, State and Area Representations*

Strengthen local opportunities for NAM members for leadership and influence.

B. *Regional and Special Interest Representation on NAM's Board*

Keep the scope of NAM's Board on local, regional, national and international issues and activities.

C. *Publications*

Produce quality exposition of mathematics for students, faculty, professionals, and the public which eradicates myths, stereotypes, and misrepresentations about mathematics and underrepresented minorities.

D. *Governance*

Enhance the effectiveness of good management, good communication and strong bonding at all tiers of NAM's organizational structure.

E. *Membership*

Expand NAM's membership to include all who have a professional stake in making mathematics work for all citizens of the United States of America.

F. *Finance*

Solicit and enhance financial support for NAM's established programs and activities as well as for new and special ones. Moreover, exercise effective management and investment of NAM's General and Endowment Funds.

NAM THREE YEAR STRATEGIC PLAN: 2016 – 2019

As an initial effort to achieve these challenging efforts, the current Board of Directors of NAM hereby outlines projected programs, activities, and initiatives in this three-year plan (2016-2019) which it anticipates reviewing and updating annually. It is the Board's highest resolve that this three-year plan reflects the valuable contributions and continuity of the past, addresses the needs of the present, and outlines visionary actions to meet the challenges of the future. Determining priorities among the various initiatives is a

responsibility of the Board of Directors and the NAM staff. The specific responsibility for developing, refining, and implementing particular initiatives rests primarily with the Standing Committees of NAM.

I. Program Goals

A. Mathematics Education

Goal: *To stimulate active learning, promote effective teaching, and encourage assessment in the mathematical sciences.*

i. Responsibility

- Programs Committee
- Service/Special Projects Committee
- Region A Committee
- Region B Committee
- Region C Committee

ii. Objectives

- View and critique national guidelines for primary, secondary, undergraduate, and graduate programs in the mathematical science dealing with curriculum, teaching, and evaluation.
- Foster widespread implementation of recent NAM approved recommendations for teaching, learning, and assessment of undergraduate mathematics at all levels.
- Stimulate and help strengthen college and university departments in the mathematical sciences, especially at HCBU/MI's.
- Support implementation of NAM approved by NAM standards for effective mathematics preparation of prospective teachers at all levels.
- Encourage additional studies and research on effective teaching, learning, and assessment, especially those that relate primarily to underrepresented minorities.
- Encourage effective and equitable means of assessing student performance and abilities.
- Stimulate and encourage programs which foster mathematics investigations and research experiences for students at the primary, secondary, undergraduate, and graduate levels.
- Foster quantitative literacy for all students at all levels

iii. Initiatives

- *Document What Works*

Continue with Undergraduate MATHFest which has been successful in encouraging competent mathematics minority undergraduates to pursue a terminal degree in the mathematical sciences. Produce a report for the mathematics community describing other highly successful undergraduate mathematics programs. Include programs that enhance recruitment and retention of mathematics majors; programs that prepare a substantial number of students effectively for school teaching; programs that are successful in preparing students for graduate school; programs that particularly effective in attracting, and addressing the needs of underrepresented minorities in mathematics; and programs that have distinguished themselves in providing research experiences for undergraduates.

- *Teacher Evaluation*

Work with the Conference Board of the Mathematical Sciences (CBMS), the Mathematical Society of America (MAA), and the National Council of Teachers of Mathematics (NCTM) to document more sophisticated ways of evaluating teaching.

- *College Teacher Preparation*

Identify and foster graduate programs in the mathematical sciences especially at HCBU/MI's, in depth as well as in breadth, that are especially effective at preparing students to teach.

- *Elementary and Secondary Teacher Preparation*
Inform mathematical sciences departments, especially at HCBU/MI's, more clearly of the urgency for change in teacher preparation. Provide national visibility for exemplary effective programs in NAM's publications.
- *Technology in Classroom*
Provide leadership to the mathematical community in the use of new technology-based mathematics classroom materials. NAM should publicize and critique the cost of technology-based mathematics classrooms, the changes in content, the effects of technology on the definition of correct mathematical conduct, and the comparison to traditional methods.
- *Applied Mathematical Needs of Undergraduate Students*
Propose changes in the content and teaching of course in the mathematical sciences to reflect better the ways mathematics is used in different disciplines and industrial settings. Develop strategies to engage the non-academic mathematicians in shaping new curricula for future needs in mathematics-dependent fields. Collect data on NAM members employed in government, corporate, or small companies about work requirements and mathematical prerequisites.
- *Educational Research*
Encourage research and studies to determine how to be effective in teaching, learning, and assessment. Although many in the mathematics community are embracing the ideas of change in mathematics education, there is much to be learned about the effects of various approaches to change and how to effectively implement change.
- *Computer Science*
Conduct a study of the state of computer science education at the collegiate level, possibly in cooperation with the Association of Computing Machinery (ACM). Computer Science is an increasingly important and popular subject of study in the mathematical sciences. Some of the issues to be addressed are the curricular impact of Computer Science on the mathematical science majors and the personnel issues that need to be resolved for departments to do justices to the teaching of Computer Science, especially from an application perspective.

B. Professional Development

Goal: *To foster professional development, and a spirit of association among mathematical scientists.*

i. Responsibility

- Programs Committee
- Region A Committee
- Region B Committee
- Region C Committee

ii. Objectives

- Encourage mathematics faculty to participate regularly in significant professional development activity.
- Strengthen the role of NAM meetings in professional development and in fostering a sense of community among mathematical scientists.
- Provide programs in which faculty can learn about new pedagogical approaches.

- Encourage professional cooperation among different NAM constituencies (primary and high school teachers, college and university professors, other mathematicians and administrators).

iii. Initiatives

- *Campus Consultants*

Developing a NAM program of school and campus consultants. For example, conduct workshops to prepare consultants: prepare lists of consultants available for specific areas of broad concern (e.g., curriculum, teacher preparation, technology, professional development, electronic services) in consultation with the Committees that are concerned with Math Education: select experienced consultants who can advocate particular new programs (e.g., intervention programs, research experiences for undergraduates, computer laboratories); form teams with balances expertise for colleges and universities who are conducting reviews of their mathematics programs.

- *Professional Support for New Ph.D.'s*

In addition to the NAM New Ph.D. Session traditionally held at the Joint Mathematics meetings, establish programs to inform and involve new PhD's in education reform.

- *Opportunities for Faculty Professional Development*

Identify, publicize, and work to increase opportunities for mathematics teachers and college/university faculty to engage in professional development both in corporations and academia. Examples include summer institutes and mini-courses and holding additional sessions at NAM meetings. Topics should include new pedagogical approaches, assessment, teacher evaluation, the reward structure, and electronic services. An annual report to the membership listing professional development opportunities should be created.

C. Scholarly Productivity

Goal: *To encourage research and scholarly productivity among all mathematical professionals, especially underrepresented minorities.*

i. Responsibility

- Publications-Publicity Committee
- Region A Committee
- Region B Committee
- Region C Committee

ii. Objectives

- Convey new mathematics to practitioners and new mathematical practice to mathematicians.
- Enhance use of electronic communication for scholarship, professional development, and fostering a sense of community among mathematical scientists.
- Provide multiple forms for exposition and dissemination of mathematics.

iii. Initiatives

- *Electronic Services*

Promote electronic discussion groups; provide access to electronically stored databases, documents, and archives; and provide links to electronic services offered by other organizations or individuals.

- *Rewards*

Promote a broadening of the reward structure. Work with MAA, AMS, SIAM, NCTM

and AWM in an active campaign to alert, advise, and assist mathematics faculty, department chairs, deans, provosts, and other higher education administrators in implementing rewards structures reflecting the total mission of schools and departments (teaching, research, scholarship, service to the local community, and services to the broad mathematical community).

D. Students

Goal: *Enhance the interest, talents and achievements of all individuals in the mathematical sciences especially of underrepresented minorities.*

i. Responsibility

- Programs Committee
- Publications-Publicity Committee
- Region A Committee
- Region B Committee
- Region C Committee
- Services-Special Projects Committee

ii. Objectives

- Expand the number of people who embrace and participate in the mathematical sciences, especially underrepresented minorities.
- Increase the number who embrace and participate in the mathematical sciences, especially underrepresented minorities.
- Increase the number of scholarly mathematical publications and convention presentations by underrepresented minorities.
- Expand the participation of underrepresented minorities in other mathematical sciences societies, associations and organizations.
- Increase the participation of underrepresented minorities in primary, secondary and college level mathematics contests.

iii. Initiatives

NAM endorses the concept of life long learning. In this regard, the Corporation will endeavor to put in place mechanisms which will encourage people to continue their study of mathematics throughout their lifetime. Through our programs, newsletter and other vehicles we hope to simulate and excite people about frontiers of mathematical thought and applicability.

E. Databases

Goal: *Establish, maintain and constantly up-date current and accurate databases on underrepresented minorities.*

i. Responsibility

- Awards-Recognitions Committee
- Membership Committee
- Programs Committee
- Publication-Publicity Committee
- Region A Committee
- Region B Committee
- Region C Committee

ii. Objectives

- NAM will endeavor to become the established authority on underrepresented minorities in the mathematical sciences.
- Expand and refine the network of underrepresented minorities in the mathematical sciences.
- Expand contacts with national and local industry.
- Build support mechanisms and communications links for undergraduate and graduate underrepresented minorities.

iii. Initiatives

NAM intends to build its membership to several thousand by the year 2021. To meet this challenge, comprehensive databases must be developed. Each current member of NAM must take on the responsibility to help strengthen the Corporation by becoming and active recruiter at their Institution, in their Region, and in their Areas of Influence.

F. Public Policy

Goal: *Influence societal, institutional and public policy through effective advocacy for the importance, use and needs of the mathematical sciences for all persons.*

i. Responsibility

- Publications-Publicity Committee
- Program Committee
- Region A Committee
- Region B Committee
- Region C Committee
- Service-Special Projects Committee

ii. Objectives

- Enhance the public's awareness of the importance of mathematics in science, engineering and technology as well as in everyday life.
- Increase public awareness that expanded mathematical literacy for the populace as closely tied to national security.
- Increase industry's awareness of the important contributions which can be made by people trained in the mathematical sciences.
- Have NAM's mission understood by philanthropic organizations and governmental agencies.
- Establish strategies for sharing information with and obtaining input from local school systems, community colleges and universities.

iii. Initiatives

For the 21st century, it has become more and more important for citizens of this nation to be conversant with the language of technology. That language is mathematics. We cannot continue to compete with the industrial and highly technological nations if we do not enlarge the number of people who are skilled in mathematics. NAM will explore new strategies which have the potential to educate and enlighten the American society with the aim of widening appreciation and thus increasing willingness to study and learn more mathematics.

II. Operational Goals

A. Organized Institutional, State/Area Representatives

Goals: *Strengthen local opportunities for NAM members for leadership and influence.*

i. Responsibility

- Executive Committee
- Programs Committee
- Publications-Publicity Committee
- Region A Committee
- Region B Committee
- Region C Committee

ii. Objectives

- Enhance the structure and functioning of NAM regions and areas.
- Build the reputation of region events and activities to the extent that registration/participation increases steadily.
- Establish a standard set of programmatic events to be conducted annually in each region.
- Enlarge the number of Institutional Memberships in NAM.
- Strengthen NAM to the extent that all tiers of the organization function smoothly.

iii. Initiatives

With the enhanced, decentralized structure, NAM will be in a position to grow and prosper. As the organization prospers, so will the membership. NAM should become stronger mathematically.

B. Regional and Special Interest Representation on NAM's Board

Goal: *Keep the focus of NAM broad at the national and international level.*

i. Responsibility

- Legislation-Nomination Committee
- Membership Committee
- Region A Committee
- Region B Committee
- Region C Committee

ii. Objectives:

- Identify, on an ongoing basis, potential leaders for NAM's Board.
- Identify, on an ongoing basis, leaders for regional board positions.
- Identify, on an ongoing basis, leaders and participants for regional positions as well as programs and activities.
- Establish a review process for analyzing and refining regional and national systemic problems.
- Establish strategies for recruiting prospective leaders from local school systems, community colleges, and universities.

iii. Initiatives

The Executive Committee will constantly provide information and planning techniques to the leadership of NAM regions. The intent is to empower locals to take on more responsibility for programs in the region. By the year 2021, we hope to have all regions functioning effectively and with a minimum amount of direction from the National office.

C. Publications

Goal: *Produce quality exposition of mathematics for students, faculty, professionals, and the public which eradicates myths, stereotypes, and misrepresentations about mathematics with regards to for underrepresented minorities in the mathematical sciences.*

i. Responsibility

- Awards-Recognition Committee
- Publications-Publicity Committee
- Region A Committee
- Region B Committee
- Region C Committee

ii. Objectives

- Increase the number of underrepresented minorities who write and publish mathematical papers.
- Develop a NAM Mathematics Proceedings and solicit articles on mathematics, mathematics issues, and mathematics education.
- Encourage regions to submit articles about personalities and activities in their locality.

iii. Initiatives

The expansion of sophisticated written materials that NAM plans to foster, has the potential to create a more accurate perception of the field of mathematics. Moreover, these writings will also let the nation and the world know about the many talented people that are in the ranks of underrepresented minorities.

D. Governance

Goal: *Enhance effectiveness of NAM's governance.*

i. Responsibility

- Executive Committee

ii. Objectives

- Structure functions and meetings of the Board of Directors to increase Board effectiveness in positions of leadership.
- Introduce new NAM leaders to major national policy issues concerning mathematics and mathematics education by having viable activities by NAM, annually, at the national regional, state/area, and institutional levels.
- Make the Standing Committees effective advocates for the Strategic Plan of the Association.
- Provide NAM's members with expanded opportunities for service and leadership.
- Implement effective electronic communication within the National Office and between the National Office and the various levels of NAM.

iii. Initiatives

- *Program Review*

Initiate regular Board review of NAM's programs in relation to goals and priorities in the Strategic Plan. The present forms of some programs may no longer match NAM objectives as well as they once did.

- *Increase Board Effectiveness*

Conduct a study of the Boards of other organizations and make recommendations on ways to further improve the effectiveness of NAM's Board and Board meetings.

- *Leadership Training*

Provide opportunities for NAM leaders to become more knowledgeable about the workings of NAM and about the positions of responsibility that they are assuming. Upon election to the Board, each member will be given a specific assignment as a committee chair or

vice-chair.

- *Electronic Service for NAM Leadership*
Set up an electronic service for Board of Directors members, State/Area representatives, and committee chairs, designed to keep them well informed about the national affairs of the NAM.

E. Membership

Goal: *Expand NAM membership to include all who have a professional interest in the mathematical sciences..*

i. Responsibility

- Membership Committee
- Region A Committee
- Region B Committee
- Region C Committee

ii. Objectives

- Increase individual membership in NAM to include the diversity of the mathematical sciences community.
- Increase and broaden institutional membership in the NAM to reflect the variety of higher education, business, and industry.
- Enhance efforts to retain members.
- Implement annually an effective membership drive in each region.

iii. Initiatives

- *Momentum for Membership*
Launch a multi-pronged initiative to shape and strengthen the membership of the NAM. Make efforts to attract more members who are students, non-minorities, two-year college faculty and employees of business, industry, and government. At the same time, work to increase membership of people from groups which have traditionally joined NAM.
- *Broaden Institutional Memberships*
Launch a special campaign to increase and broaden institutional memberships to reflect the variety of higher education institutions and of non-academic institutions that employ mathematicians. Such a campaign can develop more benefits for institutional members and more involvement with direct appeal to department chairs, deans and industrial employers. Moreover, new markets for publication sales can be developed and particularly by targeting mailings geographically tied to national meeting sites.
- *Raise Retention Rates*
Develop a strong, systematic program for member retention using special inducements for each segment of membership.

F. Finance

Goal: *Enhance financial support for current and new NAM programs.*

i. Responsibility

- Finance Committee

ii. Objectives

- Work to ensure healthy balance of revenue sources (dues, publications, grants, gifts, endowment).
- Increase net revenue from funded activities and advertising.
- Create an endowment equal to two years' operating expenses.
- Seek grant support for initiatives that advance major NAM goals and programs.
- Provide budget support for start-up funds and other new initiatives.
- Monitor the financial soundness of all NAM's funds and investments.
- Plan two year budget predictions for NAM's General Operations and plan for the securing of revenue to support these budgets.
- Do an internal or external audit of NAM's funds each year or every two years.

iii. Initiatives

- *Endowment*
Seek to increase NAM's endowment substantially. Identify and cultivate prospective donors; designate special programs or areas (e.g., student activities) to support programs from endowment funds; consider the feasibility of a campaign goal and identify opportunities and potential barriers to reaching that goal; and, if deemed appropriate, conduct a national NAM endowment Campaign.
- *Develop a Planned Giving Program*
Providing prospective donors with additional information and options for special gifts.
- *Grant Support for Initiatives*
Increase the capacity of NAM to secure grants for major initiatives. Provide committee chairs with up-to-date information (via Handbook, e-mail) on funding programs, hold proposal writing workshops for NAM committee chairs, etc.

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