

PASSING THE TORCH: THE DEVELOPMENT AND GROWTH OF NAM

NATIONAL ASSOCIATION OF MATHEMATICIANS, INC. (NAM)



PASSING THE TORCH

A Reflection of NAM's Development and Growth
By NAM's Leaders/Contributors - the first 5 Decades



By Johnny L. Houston

ABSTRACT

The National Association of Mathematicians, Inc. (NAM) 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:

- A. Promoting excellence in the mathematical sciences for all Americans and**
- B. Promoting the mathematical development of all underrepresented American minorities; especially, African Americans.**

NAM was founded under the principles of inclusivity, diversity, and equity at a time when major American mathematical sciences organizations were excluding underrepresented American mathematicians of color from their membership, editorial boards, research symposia, and other professional activities. NAM continues to welcome and encourage freedom of expression of scientific ideas from persons from diverse groups. NAM is committed to the promotion of equal opportunity and treatment for all NAM members and participants in NAM-sponsored events, regardless of gender, gender identity or expression, race, color, national or ethnic origin, religion or religious belief, age, marital status, sexual orientation, disabilities, veteran status, age, or any other reason not related to scientific merit.

NAM was established in January 1969 by 17 underrepresented American Minority mathematicians. These persons preferred to have been included in the major American mathematical sciences organizations if they had embraced diversity and exhibited genuine practices of inclusivity and equity. Since this was not the case, these and other underrepresented American minorities decided to help create other paths to success by establishing parallel organizations, inviting all who support their mission and purpose to join or at least be supportive. Five decades later, much has been accomplished; however, so much more needs to be done. This article presents some of the major accomplishments of NAM during its first five decades by its leaders and major contributors.

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I. THE ORIGIN OF NAM

NAM began at the Joint Mathematical Meeting (JMM) in 1969. The Founders of NAM assembled on January 26, 1969 at the JMM site in the “Big Easy,” New Orleans, LA, known as the Home of “Mardi Gras.” Because of Systemic Racism and discrimination in America, the majority of the Krewe’s at Madi Gras in 1969 did not permit African Americans to participate in their organizations’ (krewes) activities. As in so many similar situations, African Americans organized their own Krewe: The Zulu Krewe. **An image of King Zulu of the Zulu Krewe**



The Eternal Flame of MLK, Jr.



JANUARY 26, 1969

Seventeen (17) Founders, Reflecting on MLK, Jr. Eternal Flame (he was killed In 1968), and Visualizing a New Future of Inclusivity, Diversity, and Equity, They Focused on a New Vision.

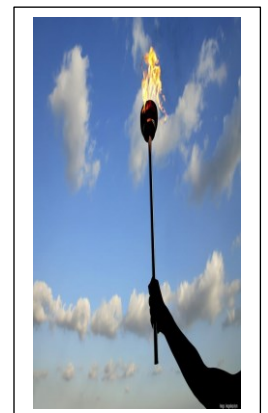
THESE ARE THE SEVENTEEN (17) FOUNDERS OF NAM

- | | | |
|-----------------------------|--------------------|--------------------|
| 1. James A. Donaldson | 2. Samuel Douglas | 3. Henry Eldridge |
| 4. Thyrsa Frazier-Svager | 5. Richard Griego | 6. Johnny Houston |
| 7. Curtis Jefferson | 8. Vivienne Mayes | 9. Theodore Portis |
| 10. Angelia Rodriquez | 11. Charles Smith | 12. Robert Smith |
| 13. Beauregard Stubblefield | 14. Henry Taggart | 15. Walter Talbot |
| 16. Harriett Walton | 17. Scott Williams | |

The Founders Vicariously (Mentally and Collectively) Lit a Torch in 1969.

Before They Lit The Torch:

- *They shared their experiences about past JMM behaviors toward them, underrepresented American Minority Mathematicians (UAMM)
- *They noted the same or similar observances at JMM1969.
- * They discussed the past/present and noted the blatant exclusion of UAMM from anything noteworthy, including Speakers, Committees, and Boards, including the absence of any HBCUs/MSI at any level of involvement.
- *These discussions led to a **Kujichagulia (Self Determination) “Moment.”** “A Collective Torch” was Ignited and the 17 Gathered Gave Birth to NAM.



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The Founders Initiated Invigorating Actions that have developed over five (5) decades and will continue for future decades

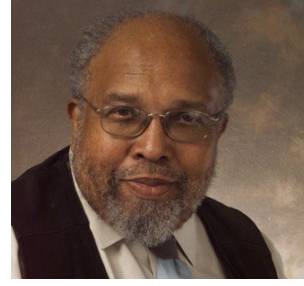
Photos of 12 of NAM's 17 Founders



W. Talbot



J. Houston



S. Williams



J. Donaldson



B. Stubblefield



S. Douglas



H. Walton



V. Mayes



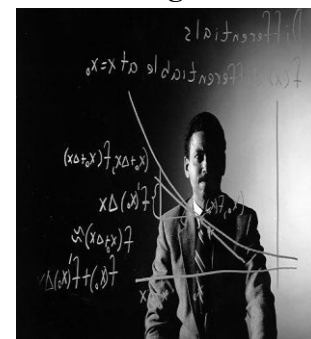
R. Greigo



T. Frazier-Svager



A. Rodrequiz



R. Smith

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II. NAM, 2022, A PROFESSIONAL ORGANIZATION IN THE MATHEMATICAL SCIENCES

NAM's Operations, Programs and Activities are supervised by its Board of Directors, Consisting of Twelve Standing Committees, all of which functions according to the guidelines of NAM's Constitution and Bylaws. These documents were first established when NAM became Incorporated as a non-profit organization in 1972, during the first two years of its first decade and amended/modified over future decades.

NAM's Programs and Activities in 2022 consist primarily of NAM's annual Signature/Major Events that occur seasonally:

- **Monthly Meetings of NAM's Standing Committees**
- **Monthly Meetings of NAM's Board of Directors**
- **NAM's Quarterly Newsletter is distributed once each season**
- **NAM's Winter Events: NAM's National Meeting at the JMM**
- **NAM's Spring Events: NAM's Faculty Conference on Research and Teaching Excellence (FCRTE) at an HBCU/MSI, (Which includes NAM's Albert T. Bharucha-Reid Lecture)**
- **NAM's Summer Events: NAM's David Blackwell Lecture and Other Items at Mathematical Association of America (MAA) Summer-MathFest**
- **NAM's Fall Events: NAM's Undergraduate (UG) MATHFest on an HBCU/MSI campus (Including the J. Ernest Wilkins Lecture)**

NAM's Quarterly Newsletter is produced and distributed each season.

It is NAM's primary method of communicating with its members, friends and supporters. NAM's past and current Newsletters are located on NAM's website: nam-math.org

NAM's Winter Events are held at NAM's National Meeting, in conjunction with the JMM. Because of NAM's strong commitments to the principles of Inclusivity, Diversity and Equity, NAM leaders decided, early during its first decade, to hold its annual meetings at the same site and at the same time that the annual Joint Mathematics Meeting (JMM) is held each January. NAM wanted its members to be able to participate in most of NAM's National Meeting events as well as attend, and participate when feasible, in the events of the majority Mathematical Sciences organizations. Moreover, NAM Leaders chose the dates and times of its National Meeting Events so that NAM events did not conflict with major events of the majority Mathematical Sciences organizations. In addition, it was NAM's hope that an impactful number of members of the majority Mathematical Sciences organizations would attend some of NAM's events, helping to demonstrate and encourage dual interest in Inclusivity, Diversity and Equity. **In 2022, NAM is a pier partner in the JMM and NAM is an Equitable member on the Conference Board of the Mathematical Sciences (CBMS).**

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III. NAM's MAJOR AND SIGNATURE WINTER PROGRAMS-NAM NATIONAL MEETING AT JMM, INCLUDE:

A. NAM's William W. S. Claytor – Dudley W. Woodard Lecture (research)

Named in Honor of their early Research Legacies in mathematics and being the second and third and African Americans, respectively, to earn PhDs in mathematics.



W. W. S. Claytor

Passing the Torch



D. W. Woodard

B. NAM's Elbert F. Cox – Walter R. Talbot Address (Issues/Topics in Math/Math Ed.)

Named in Honor of their early Legacies of challenging the system; the first and fourth African Americans, respectively, to earn PhD degrees in mathematics.



Elbert F. Cox

Passing the Torch



Walter R. Talbot

C. NAM's Haynes, Granville, and Browne Presentations by recent PhDs

Named in Honor of their early Legacies to teach and mentor many young African Americans to do graduate study and earn PhD degrees in mathematics; they are the first three African American women to earn a PhD, respectively, in mathematics.



Euphemia L. Haynes (1943)



Evelyn B. Granville (1949)



Majorie L. Browne (1950)



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NAM PhD Colloquium Speakers at the 2018 Haynes-Granville-Browne Presentation Session

D. NAM’s National one hour Panel, engaging in a variety of topics (Self Explanatory)

E. NAM’s Annual Business Meeting, receives Reports from the Board and votes on issues.

F. NAM’s Annual Banquet (with presentation of awards) – this is usually a diverse group

1. NAM’s Lifetime Achievement Award (s),

An Award (s) given Annually to an Underrepresented American Mathematician who has exhibited an exemplary career for a period of at least 25 years that is worthy of younger mathematicians to emulate. (Passing the Torch) The Award may be given posthumously.

2. NAM’s Clarence F. Stephens – Abdullalim A. Shabazz Teaching Excellence Award



Two of the most highly acclaimed and nationally honored professors of mathematics at the collegiate level who have inspired and produced scores of mathematicians

A Teaching Excellent Award is given annually to a minority mathematics professor who is seeking to emulate the Legacies of these professors. It includes a sizable monetary value.

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IV. NAM's SPRING EVENTS: NAM's FACULTY CONFERENCE ON RESEARCH AND TEACHING EXCELLENCE (FCRTE) AT AN HBCU/MSI – Including NAM's ALBERT T. BARUCHA-REID LECTURE

A. NAM's Faculty Conference on Research and Teaching Excellence (FCRTE)

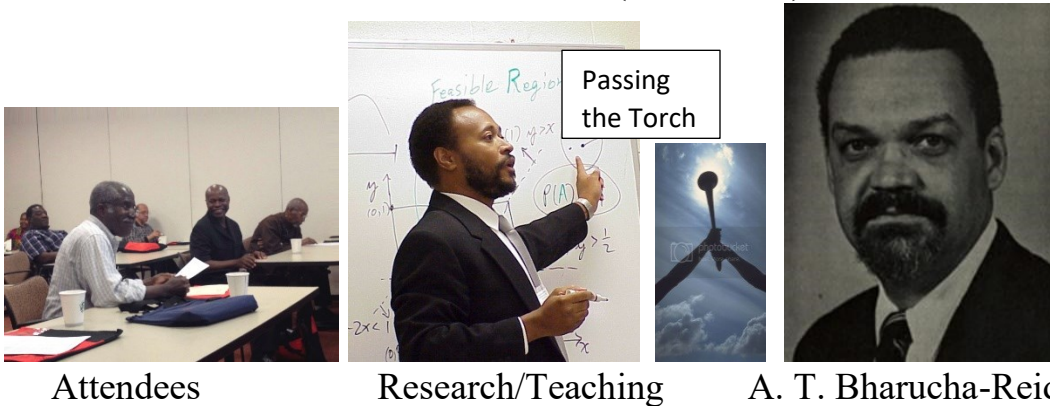
An Annual Weekend Event (Fri-Sat) for underrepresented minority faculty.

Presentations by faculty on research topics and/or topics on teaching techniques/issues

A Faculty Panel Discussion on topics such as:

- Tutoring and Mentoring Techniques, the Importance of perseverance
- Summer Opportunities for Faculty and Students – Fellowships/Internships
- An Invited Speaker to give a Lecture in Honor of the Legacy of **Albert Turner Bharucha-Reid**, a Great Teacher and a World-Class Researcher

B. Albert Turner Bharucha-Reid Lecture (at FCRTE)



Attendees

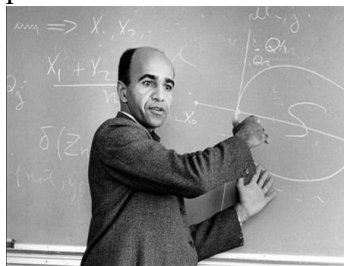
Research/Teaching

A. T. Bharucha-Reid

V. Summer Events: NAM's David H. Blackwell Lecture and other items at the Mathematical Association of America (MAA) Summer MathFest

A. The NAM David H. Blackwell Inaugural Lecture was established in 1994, in Honor of the Legacy of this Great Professor and Distinguished World-Class Researcher and Scholar.

B. In 2019, Johnny L. Houston gave the 25th David Blackwell Lecture. Houston's presentation was followed by NAM's 50th Anniversary Party (Sponsored by MAA).



Prof. Blackwell Lecturing



J. Houston, Blackwell 25th



Happy 50th Anniversary NAM

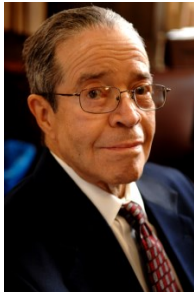


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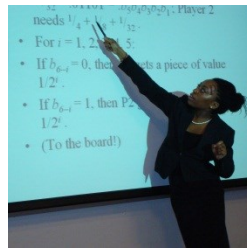
VI. NAM Fall Events: NAM’s Undergraduate MATHFest on an HBCU/MSI Campus and Including NAM’s J. Ernest Wilkins Lecture.

A. NAM’s Undergraduate MATHFest (UG MATHFest) is a Weekend Event (Friday-Sunday) for underrepresented American minority students in the mathematical sciences at the sophomore - senior college level. They are exposed to other similar college students; especially, at other HBCUs/MSIs, underrepresented American graduate students pursuing graduate degrees in the mathematical sciences, graduate faculty from Research Granting institutions (producing PhDs) seeking to recruit underrepresented American minority students to pursue graduate degrees, and Seasoned underrepresented minority mathematicians who serve as role models for the current underrepresented American students attending. This unique Gathering of Math-Types can significantly inspire the attending undergraduate students’ future goals and careers. It is a Networking Haven of opportunities to learn, participate, and plan one’s future. It exhibits a real sense of Inclusivity, Diversity and Equity. The students are challenged to be involved.

B. At UG MATHFest an Invited Speaker gives **The J Ernest Wilkins Lecture** in Honor of the Legacy of this Distinguished World-Class Mathematician who enjoyed inspiring youth to pursue careers in mathematics and/or STEM. Dr. Wilkins gave the Inaugural Lecture in 1994.



J. Ernest Wilkins



A Presenter at UG MATHFest

A typical UG MATHFest
Attracts at least 75 – 100
Undergraduate Attendees



A group photo of the attendees at a NAM Undergraduate MATHFest

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VII. AN OVERVIEW OF NAM'S FIRST FOUR DECADES

A. NAM'S FIRST DECADE, 1969 – 1979

- **1969, The Founding of NAM,**
- **Leaders of Founders:
Walter R. Talbot, Johnny Houston, Scott Williams**
- * **1970, NAM's Executive Committee Chair, Irvin Vance**
- **Elected Presidents during NAM's First Decade**
 - Frank James, 1971 – 73
 - Theodore Sykes, 1973 – 75,
 - Japheth Hall, 1975 – 76
 - Samuel Douglas, 1977 – 1983
 - 1971 NAM's First Annual Meeting Research Presentation, by Rogers J. Newman
 - 1972 NAM Incorporated in State of Georgia, after Adoption of Constitution/Bylaws
 - 1973 NAM 's First Annual Business and Annual Panel Established
 - 1974 NAM's National Office established in Atlanta
 - 1975 NAM began having its National Meetings at JMM
 - 1975 NAM selected Johnny L. Houston as its first Executive Secretary
 - 1979 NAM's Tenth Anniversary Celebrated in Boulder, CO, supported with NAM's First grant from NOAA, secured by Beauregard Stubblefield (who worked at NOAA), one of NAM's Founders

B. NAM'S SECOND DECADE, 1980 – 1989

NAM's National Meetings grew in complexity and attendance

- 1980 NAM's Claytor-Woodard Lecture was established by President Samuel H. Douglas and Exec. Secretary Johnny L. Houston
- 1980 NAM's Cox-Talbot Address was established by President Samuel H. Douglas and Exec. Secretary Johnny L. Houston
Prof. J. Arthur Jones, Florida A & M University, gave the Inaugural Lecture
- 1981 NAM produced and published the First NAM Proceedings
- 1984 Rogers J. Newman was elected NAM's 5th President
- Several Distinguished Speakers gave the Claytor-Woodard Lecture in the Second Decade:
 - 1984 Prof. David H. Blackwell
 - 1985 Prof. Albert Turner Bharucha-Reid
 - 1986 Prof. J. Ernest Wilkins
- **The following Board Members were Elected in this Decade:**
Sylvia T. Bozeman, Vice President; Harriett Walton, Secretary-Treasurer;
James Donaldson, Newsletter Editor; Walton served for more than a decade.

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C. NAM's THIRD DECADE, 1990 – 1999

- **NAM Undergraduate MATHFest (UG MATHFest) was established in 1992**
Under the Leadership of:
NAM's 5th President, Rogers J. Newman (1984-1994)
and Executive Secretary Johnny L. Houston, Executive Secretary. (1975-2000);
Prof. Aderemi O. Kuku was UG MATHFest 1992 ,Invited Distinguished Speaker

The following NAM annual major events and signature programs below were established under the leadership of:

- NAM's 6th President, John W. (Jack) Alexander, **President (1994-2004)**,
and Executive Secretary, Johnny L. Houston
- **Annual Faculty Conference on Research and Teaching Excellence (FCRTE), 1994**,
 - **The Albert Turner Bharucha-Reid Lecture (at FCRTE), 1994**
 - **The David H. Blackwell Lecture at MAA Summer MathFest, 1994**
 - **The J. Ernest Wilkins Lecture at NAM's UG MATHFest, 1994**
 - **NAM's Lifetime Achievement Award was established, 1994**

NAM's Executive Secretary Johnny L. Houston began a quarterly column in NAM's Newsletter entitled: **SPOTLIGHT ON A MATHEMATICIAN**, in each edition produced a one page biography on an African American mathematician. It provided over 25 biographies.

D. NAM's FOURTH DECADE, 2000 - 2009

During this Decade, NAM's Expanded Programs, Lecture Series, and Annual Activities led to more Joint-Venture Activities within the Mathematical Sciences Community.

NAM's 7th President, Nathaniel (Nate) Dean (2004-2014)

Executive Secretary, Leon Woodson, and Vice President, Dawn Lott

- Successfully sought grant funds to enhance programs and activities.
- Initiated joint venture activities that further expanded NAM's Influence.

Dean's Background in the Mathematical Sciences Inspired more NAM Involvement with Research, producing PhD students and Participation with Corporate America

It was at the beginning of this Decade that Johnny L. Houston, retired as NAM's Executive Secretary after 25 years of service, 1975-2000. Houston was selected to be Exec. Sec. Emeritus by NAM's general membership and to be an **Ex Officio Member** of NAM's Board. Houston wrote a book: **"The History of NAM, 1969-1999"** (The first 30 years, 242 pages), **2000**.

Johnny L. Houston is NAM's only member who has served as an active member of NAM from being one of its Founders (1969) through (2022-) and counting, as well as being on NAM's Board of Directors for 47 years.

All of NAM's Leaders and major Contributors who helped **"Past the Torch,"** contributed immensely to NAM's development and growth. The more impactful included the three who were each president of NAM for ten years. We pause to present a one- page Bio-Legacy of each.

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VIII. NAM's THREE PRESIDENTS WHO SERVED TEN YEARS EACH

• LEGACY IMPACT of ROGERS JOSEPH NEWMAN (1926 – 2016)



Rogers Joseph Newman – “My first JMM meeting was the one held in Washington, DC in January 1961. I had just picked up my degree from the University of Michigan. I wanted to know more about this JMM Meeting of which so many Michigan professors had discussed,” R. J. Newman, AMS 100th, 1994. Rogers J. Newman was born in Ramar, near Montgomery, AL on December 22, 1926 as the only child of Jonathan Newman, a farmer and insurance agent and Vera Primos Newman, a school principal. He passed at 89 on January 9, 2016. He married Dorothy Alice Willis Newman. They had three sons: Rogers Joseph, Jr.; Roy Oliver, and Robert Marion. Newman received his high school diploma from AL St College Laboratory School (Montgomery). He enrolled in Morehouse College in Atlanta, GA in 1944, earning a BA degree in mathematics in 1948; Martin Luther King, Jr. was in his graduation class. Immediately following graduation, he enrolled at Atlanta University (now Clark Atlanta U), earning the MA degree in mathematics, 1949. Newman began his illustrious teaching career at Bishop College in Marshall, TX (1949-50). He taught at Grambling College, Grambling LA (1950-51); at Jackson St. College, Jackson, MS (1951-53); and at Southern University in Baton Rouge, LA (1953-55). He then pursued a PhD degree at the University of Michigan. While at Michigan, he was a teaching fellow (1957-58), a junior instructor (1958-60), and he did limited teaching at Eastern Michigan University (1958-59). In the fall of 1960, Newman returned to Southern. In January 1961, he received his PhD in mathematics from Michigan in Complex Variables. He was chair of math at Southern (1961-1973). Under his leadership the Department flourished. He was Dir., Institute for Higher Ed. Opportunity – So. Regional Ed. Board (SREB) in Atlanta, GA (1973) and Dean of Science and Humanities at AL St. University (1974-76). He taught at Tulane U. (Sum, 1965), Tuskegee Institute (Sum, 1969) and he was the Commonwealth V. Prof at Longwood College in Farmville, VA (1984-86). He returned to Southern in 1986 and later retired. During his more than 40 years career, Prof. Newman taught and influenced scores of established mathematicians. His list of students who have earned doctorates include Delores Spikes, Stella Ashford, Juanita Bates, Roosevelt Calbert, and Preston Dinkins. He was selected a Danforth Teacher (1995) and Teacher of the Year (1981). He produced several publications and made a number of scholarly presentations. He did further formal studies at Imperial College, U. of London (1970-71) and at LA St. U. (sum 1970, sum 1971). He was active in several organizations; but foremost a distinguished leader of NAM - **President, 1984-1994**, and he marketed NAM in all areas of the mathematical sciences community. He gave NAM's first scholarly presentation at a NAM National Meeting (1971). He helped to enhance NAM's National Meetings with quality presentations. He engaged more Historically Black Colleges to participate in NAM annually, when he and Exec. Sec. Houston established NAM's UG MATHFest in 1992. He was active with the MAA, Bd of Gov. (1986-89), AMS, NSF and Math Reviews. He received NAM's Distinguished Award Service (1994), and other awards/honors. By those who know NAM's History, he will be forever remembered.

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LEGACY IMPACT of JOHN W. (JACK) ALEXANDER (1938 – 2022)



John W. (Jack) Alexander, Jr. was born May 17, 1938, in Salem, OH. He passed January 13, 2022 in Miami, FL at the age of 83. Dr. Alexander was a very scholarly individual, having earned five degrees in higher education. He earned the BS in Mathematics (1961, Boston University); the MA in Mathematics (1965, Bowling Green St. U.); the EdD in Mathematics Education (1985, Boston U.), the MBA (1987, California Coast University (CCU)); and a PhD in Management Science/Operation Research (1989, CCU). He retired as a Prof. of Mathematics, Miami Dade College, 2020.

Dr. Alexander's interest in the broad applications of numerical knowledge is reflected by the diversity of his professional positions and activities. His professional positions included: Mathematics Consulting Director to the West African Regional Mathematics Program of the State Department (1970-77); Actuary for Connecticut Mutual Life Insurance Co. (1978-81); Chief Statistician, Futures Group Think Tank, Glastonbury, Connecticut, (1981-82); Associate Prof., Wentworth Institute of Tech (1982) and later Dean of the College of Arts & Sc. (1984-90); faculty member at the U. of the District of Columbia (1990-97) and served a term as Mathematics Department Chair. Later he served as Staff Officer and Research Mathematician for the Board on Mathematical Sciences (1995-96), and Director of the Board (1996-97) at the National Academy of Sciences. He returned to academia as Prof. of Mathematics at Atlanta Metropolitan College and Spelman College (1998-2002) and ended his academic career as Prof. of Mathematics at Miami Dade College (2002-2020).

Dr. Alexander had a long and distinguished relationship with the National Association of Mathematicians, Inc. (NAM). In 1992 Dr. Alexander was elected to NAM's Board of Directors as Vice President. Later he served a productive 10-year term as **President of NAM (1994-2004)**. At the beginning of his Presidency NAM celebrated its 25th Anniversary Year during which the Board examined its past activities and made future plans. The Board then charged President Alexander and Executive Secretary Johnny Houston with critically reviewing the ideas that emerged and proposing plans to guide the organization's activities for the next 5-25 years. The major elements of the *1994 Alexander-Houston Proposal* which were adopted by the Board included: a 5-year Strategic Plan; establishment of an annual Regional Faculty Conference with a Bharucha-Reid Lecture; establishment of named lectures for notable mathematicians David Blackwell and J. Ernest Wilkins, Jr.; establishment of the annual Haynes-Granville-Browne Recent PhDs Presentations; creation of the NAM Lifetime Achievement Award; and upgrading NAM's Newsletter. In 2004, Dr. Alexander received the NAM Lifetime Achievement Award in recognition of his extraordinary leadership and service to NAM. Dr. Alexander was a master teacher of mathematics, a visionary of ideas for the use of mathematics and an effective and impactful leader of NAM. He will be forever remembered by those who know NAM's History.

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• LEGACY IMPACT of NATHANIEL DEAN (1956 – 2021)



Nathaniel (Nate) Dean, an American mathematician and educator who made significant contributions to abstract and algorithmic graph theory, as well as data visualization and parallel computing, was born in Mississippi on January 9, 1956 and passed in Texas on February 18, 2021. He received the BS in mathematics and physics from Mississippi St U (1978), the MS in applied mathematics from

Northeastern U (1983) and the PhD in mathematics from Vanderbilt U (1987). He had a stellar career in both industry and higher education. After receiving his PhD degree in graph theory in 1987, Dean worked for the next 11 years in the Software Production Research Dept of Bell Labs, producing over thirty scientific publications. In 1997, he received the President's Silver Award from Bell Labs. In 1998, Dr. Dean became an Associate Professor of Computational and Applied Mathematics at Rice University. While at Rice, he supervised four PhD students with thesis topics ranging from algorithmic graph theory to biological computing. In 2003 he moved from Rice to Texas Southern Univ (TSU), becoming full professor and math chair. He was Director of an NIH Computational Research Laboratory at TSU. Dean's departure to Texas State University (TX-St) occurred in 2006. At TX-St he supervised his fifth PhD student and served as chair of the mathematics department for several years. He was highly respected by faculty and by students. He retired in 2016. Dean's research focused on creating mathematical models of complex systems and developing computer tools to visualize, design and analyze such systems. His research areas included discrete mathematics, optimization, data mining, and network visualization. He produced over 60 publications in these fields, and some of his work in data mining was highlighted in **The PBS television series "Life by the Numbers (1998),"** including data mining software that he had developed to teach discrete mathematics at the K-12 levels. On the second neighborhood problem, Dean posed a conjecture in 1995 which led to progress. The problem is still open (2021). Dean also focused on mathematics education and outreach throughout his career. He was always recruiting students to study mathematics, especially, underrepresented American minorities. One of his aims was to help address the issue of the serious under-representation of underrepresented American minorities in the workforce in the mathematical sciences. Dean became V. President of NAM (2001) and served as **President (2004-2014)**, leading NAM with excellence. He served as an Associate Editor of the Notices (AMS) and served on the Bd of Gov (MAA). He was Managing Editor of the Journal of Graph Theory, co-organizer of several mathematics conferences, and served as Editor of four volumes for the AMS: Computational Support for Discrete Mathematics, African Americans in Mathematics I and II, and Robust Communication Networks. He was active with SIAM and with CAARMS. He received several recognitions for his achievements and outreach, including NAM's Lifetime Achievement Award, and being recognized as a great graph theorist. He held a 2nd degree Black Belt in Martial Arts. He enhanced many aspects of NAM's programs and activities. He will be forever missed by those who know the History of NAM.

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X. NAM's FIFTH DECADE, 2010 – 2019, BROUGHT IN A YOUNGER GENERATION TO RECEIVE "THE TORCH"

A. Under NAM's 8th President, Edray Goins, President (2015 – 2020), a Younger Generation received "The Torch." Here is what they did?

- Improved NAM's website and database
- Marketed NAM's image with merchandise
- Increased collaboration with other mathematical sciences organizations
- Established the Clarence F. Stephens – Abdullalim A. Shabazz Teaching Award
- Renamed the Executive Secretary position to that of Executive Director
- Attracted a diverse group of younger mathematicians to the membership/Board
- Established NAM's Historical and Archival Committee (HAC), an Ad Hoc Subcommittee under NAM's Publication Committee, with Johnny L. Houston as Chair and selected Robert W. Woodruff Library and Research Center (Atlanta University Center) as NAM's Physical Repository of Resources.
- Developed Attendees/Network Directories that were distributed at UG MATHFest
- Launched NAM's 2nd Endowment Campaign
- Organized NAM's 50th Anniversary Celebration and AMS published Contemporary Mathematics 759: The Golden Anniversary of NAM.

**Leon Woodson, Exec. Sec. Passed the Torch to Leona Harris, 1st Executive Director
Talithia Washington, V. Pres., Passed the Torch to Naiomi Cameron, V. President
Roselyn Williams, Treasurer, Passed the Torch to Cory Colbert, Treasurer**

B. Omayra Ortega, became NAM's 9th President, First Female, 2021;

She was the Past NAM's Newsletter Editor for several years

NAM Current Board of Directors, 2021-2022

Omayra Ortega, President	Chinenye Ofodile, Region A Member
Rhonda Fitzgerald, Vice President	Terrence Blackman, Region B Member
Aris Winger, Executive Director	Brittany Mosley, Region C Member
Cory Colbert, Treasurer	Brett Jefferson, Outside of Academia Member
Shea Burns, Secretary	Robin Wilson, Majority Institution Member
Haydee Lindo, Newsletter Editor	Karen Taylor, Community College Member
	Johnny Houston, Executive Secretary Emeritus, Ex Officio Member

This Board has conducted all NAM programs and activities virtually, during Covid (2020-2021) and they are planning and are conducting In-Person programs and activities for (2022).

NAM, in 2022, has been awarded grant funds to support UG MATHFest In-Person for 2022 and 2023.

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IX. WHAT HAVE BEEN NAM'S MAJOR BENEFITS DURING ITS FIRST FIVE DECADES?

- The Hundreds of Contributors Who have Voluntarily Shared Directly or Indirectly:
 1. Their Time, Talents, and Influence to support and plan NAM's Programs/Activities (P/A)
 2. Their Time, Talents, and Resources to Successfully Implement NAM's P/A
- During the First Five Decades, NAM has depended 100% on Volunteer Contributors. 100% non-paid Board of Director Members, Standing Committee Members and Others participants for their services and/or contributions
- NAM has been completely Non-Profit with a Non-Paid Staff and has been quite successful.

Can NAM exist in the Future on Total Volunteer Services?

This will be a Great Challenge for NAM's New/Young/Future Generations!

This Article ends with giving **Honor and a Five Decades Legacy Listing** of 50+ persons who have given Birth, Development and Growth to NAM during its first five decades by **"Passing The Torch"** (Vicariously/Indirectly/Directly) and now they have **"Passed Away."**

But first we share some of NAM's Challenges and Goals/Visions for the Future.

EPILOGUE:

A. Population growth projected for African Americans and other minorities by 2050.

The National Science Foundation reported that American universities awarded more than 1.3 million doctoral degrees from 1920 to 1999. STEM fields accounted for 62 percent of these degrees, while other fields comprised the remaining 38 percent. Men accounted for 73 percent of the recipients, but the percentage of doctoral degrees earned by women rose from 15 percent in the 1920s to 41 percent by the late 1990s. The African American (AA) population has always been above 10% (projected to be 13% by 2050). However, in no year have African Americans earned more than 2% of the PhDs awarded in math; and yet the numbers and percentages of math PhDs for other minorities are increasing. **This is a great challenge for America; especially, African America! And yet it is the goal and vision of many that with continued improvement of quality education for all, and embracing Diversity, Inclusivity, and Equity of all persons at all levels of education (especially STEM areas at the PhD level), and exhibiting sound practices that have succeeded in the past, then by 2050 and beyond, at least 7-10% of the PhDs awarded annually in math will be awarded to African Americans. This will require the committed efforts of many!**

B. Can NAM/other smaller non-profit math groups exist on Volunteerism and dues alone?

Planning and Implementing quality programs and activities are the life-line of non-profit organizations. Having dependable Staff and Finance to achieve these requirements are the critical foundations for their existence. The professorate of the future is likely to demand more teaching and scholarly activities and give less credit for service. This means that Volunteerism and dues alone will not be sufficient for survival. NAM and these groups must find ways to constantly secure outside finance and pay some hired Staff. **It is not impossible, just challenging!** Some groups are beginning to request industry to donate one of their professional personnel to spend 3, 6, or 9 months during a given year to do fund-raising and planning to help the organization to acquire sufficient grant funds and philanthropic donations to support paid staff and to support implementing its major programs/activities, annually, for 3 to 5 years.

PASSING THE TORCH: THE DEVELOPMENT AND GROWTH OF NAM

X. WITH THIS LISTING OF 50+ NAMES “IN MEMORIAM AND IN HIGH ESTEEM,” NAM HONORS THE LEGACY OF THOSE WHO “PASSED THE TORCH” FOR NAM DURING NAM’S FIRST FIVE (5) DECADES AND WHO HAVE “PASSED AWAY” (AND OTHERS THAT WE MAY HAVE UN-INTENTIONALLY OMITTED).

MAY NAM MEMBERS FOREVER APPRECIATE YOUR CONTRIBUTIONS!

A. DISTINGUISHED 1ST AND NAM PRESIDENTS WHO PASSED THE TORCH

Patrick Francis Healey (1834-1910)-a

a. First Black man/African Am. to earn a PhD, Louvain, Belgium, 1865

Elbert Frank Cox (1895-1969)-c

c. First Black man/African Am. to earn a PhD in math/Cornell, 1925

Etta Zuber Falconer (1933-2002)-e

e. The first Secretary selected for NAM, Etta Falconer (1970)

Theodore Roosevelt Sykes (1930-1996)-N2P

N2P, means NAM’s 2nd President; N3P, NAM’s 3rd President; N4P, NAM’s 4th President; N5P, NAM’s 5th Pres.; N6P, NAM’s 6th Pres.; N7P, NAM’s 7th Pres.

Samuel Horace Douglas (1924-1989)-N4P

John W. (Jack) Alexander (1938-2022)-N6P

Edward Alexander Bouchet (1852-1918)-b

b. First Black man to earn a PhD from an Am. University, physics/Yale, 1876

Walter R. Talbot (1909-1977)-d

d. Fourth Black man to earn a PhD in math, the Lead Founder of NAM

Eleanor Green Dawley-Jones (1929-2021)-f

f. NAM’s first Newsletter Editor (1973) and NAM’s first female V. Pres. (1975)

Japheth Hall, Jr. (1929-1980)-N3P

Rogers J. Newman (1926-2016)-N5P

Nathaniel (Nate) Dean (1956-2021)-N7P

B. SOME EARLY PIONEERS/RESEARCHERS-PUBLISHED MATHEMATICIANS WHO PASSED THE TORCH FOR NAM, VICARIOUSLY OR BY DIRECT PARTICIPATION

Dudley Weldon Woodard (1881-1965)

Joseph A. Pierce (1902-1969)

Majorie Lee Browne (1914-1979)

Albert Turner Bharucha-Reid (1927-1985)

Elgy Johnson (1915-1987)

Lillian K. Bradley (1918-1995)

Vivienne Malones-Mays (1932-1995)

James E. Robinson (1947-1991)

Lloyd K. Williams (1925-2001)

Charles B. Bell (1928-2010)

Clarence F. Stephens (1918-2018)

David Blackwell (1919- 2011)

Amassa C. Fauntleroy (1945-2017)

William T. Fletcher (1934-2017)

James A. Donaldson (1941-2018)

Aderemi O. Kuku (1941-2022)

William W. Schiellifin Claytor (1908-1967)

Joseph J. Dennis (1905-1977)

Euphemia Lofton Haynes (1890-1980)

Alfred D. Stewart (1916-1987)

Edward M. Carroll (1916-1997)

Thyrsa Frazier Svager (1930-1999)

Manuel Keepler (1942-1999)

John Ewell (1928-2007)

Beaugard Stubblefield (1923-2013)

Abdullalim A. Shabazz (1927- 2014)

J. Ernest Wilkins (1923-2013)

Arthur Grainger (1942-2017)

Rudy L. Horne (1968-2017)

Katherine G. Johnson (1918-2020)

C. SOME OF THE MANY OTHER DISTINGUISHED CONTRIBUTORS WHO PASSED THE TORCH FOR NAM, VICARIOUSLY OR BY DIRECT PARTICIPATION

Gerald Chachere 1944-2001)

M. Solveig Espelie (1940-1984)

Lee Lorch (1915-2014)

Wilbur Smith (1941-2020)

J. Arthur Jones (1937-2018)

Boyd Coan (1949/1950-2019)

Janis Oldham (1956-2021)

Della Bell (1942-2021)

Frank Hawkins (1935-2020)

Ronald Biggers (1945-2005)

Don Hill (1944-2009)

Vernise Steadman (1946-2015)

Stella Ashford (1942-2018)

Irvin Vance (1928 -2018)

Karen King (1971- 2019)

Shirley McBay (1935-2021)

Genevieve Knight (1939-2021)

Llayron Clarkson (1924-2022)

PASSING THE TORCH: THE DEVELOPMENT AND GROWTH OF NAM

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