



Newsletter

Volume I

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Contents

From the Editor	2
Publishing in the Newsletter	3
A Centennial Celebration of David Harold Blackwell at MAA MathFest	4
Farrah Jackson Ward Named ECSU's Next Provost	9
Finding Community at MAA MathFest With the New NAM-MAA Blog Editors ..	10
CAARMS 25:A Personal Perspective From Dr. Aqeeb Sabree	13
How Illya Hicks is Giving Professional Tools to Scholars	17
Unsung Hero: William Claytor – The Third African-American to earn a Ph.D.	19
Announcing the Clarence Stephens Abdulalim Shabazz Teaching Award ..	22
Imposter Syndrome	23
The Need for HBCUs in the STEM Pipeline	26
Introducing the Karen EDGE Fellowship Program	29
NAM Calendar	38
NAM Board of Directors	41
NAM Membership Form	42

Dr. Johnny Houston Delivers the 2019 MAA NAM Blackwell Lecture



Dr. Johnny Houston (Elizabeth City State University) and his spouse, Virginia L. Houston, after he gave the MAA-NAM Blackwell Lecture at the 2019 MAA MathFest in Cincinnati, OH (photo courtesy of the MAA)

The National Association of Mathematicians (NAM)

publishes the NAM Newsletter four times per year.

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NAM's History and Goals: The National Association of Mathematicians, Inc. (known as NAM) was founded in 1969. NAM, a nonprofit professional organization, has always had as its main objectives, the promotion of excellence in the mathematical sciences and

the promotion and mathematical development of under-represented minority mathematicians and mathematics students. It also aims to address the issue of the serious shortage of minorities in the workforce of mathematical scientists.

NAM's National Office: Dr. Leona Harris, Executive Director, National Association of Mathematicians, P.O. Box 5766, Tallahassee, Florida 32314-5766; e-mail: executive-secretary@nam-math.org.

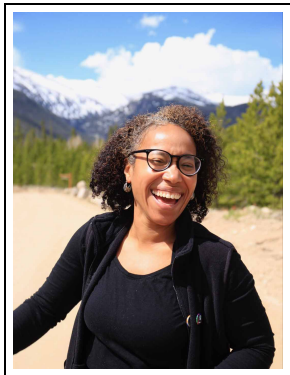
Subscription and membership questions should be directed to Dr. Roselyn E. Williams, Secretary-Treasurer, National Association of Mathematicians, P.O. Box 5766, Tallahassee, Florida 32314-5766; (850) 412-5236; e-mail: secretary-treasurer@nam-math.org.

NAM's Official Webpage: <http://www.nam-math.org>

Newsletter Website: The NAM website has a list of employment as well as summer opportunities on the Advertisements page. It also features past editions of the Newsletter on the Archives page.

Letters to the editor and articles should be addressed to Dr. Omayra Ortega via e-mail to editor@nam-math.org.

From the Editor



“I hope that your rambles have been sweet and your reverie spacious.”

- Emily Dickinson.

It's finally fall! By the time you read this, your semesters will be in full swing, you may even have had or given a midterm exam or two. I hope that your summer was filled with new collaborations, fulfilling research, and rejuvenating experiences with summer travel, summer meetings, or summer REUs, and was sufficiently restorative to carry you through the academic year bursting with motivation. I spent my summer on several projects including editing the Proceedings of the Golden Anniversary Celebration of NAM, writing a glorious grant proposal (fingers crossed!), working with undergrads in the Rocky Mountain Science and Sustainability Network (RMSSN) analyzing data we

collected on pollinators and bats in the Colorado Rocky Mountains, and working on the geospatial modeling of malaria in Botswana as part of a Women in Math Biology working group at IPAM.

In this issue of the newsletter you will find a summary of the NAM events at the MAA MathFest. If you missed them, you missed out! This Golden Anniversary year has been GREAT for NAM and for NAM's projects. This year we launched a NAM stream within the MAA Math Values Blog (our first two blog posts are reprinted in this newsletter) and NAM is about to publish a set of proceedings. NAM will be holding elections for several positions this fall, so this is your opportunity to step up and serve!

Do you have a dream, vision, or goal for the National Association of Mathematicians? If so, I want to hear it! Since 2019 marks the 50th anniversary of NAM, I am curious what our readership wants to see in NAM's future. *What do the next 50 years of NAM look like?* I look forward to receiving your letters. Be well!

Sincerely, Dr. Omayra Ortega



Publishing in the NAM Newsletter

Submissions: The *NAM Newsletter* is a quarterly publication. Articles and letters should be submitted electronically to the editor at editor@nam-math.org, or by postal mail to Dr. Omayra Ortega, NAM Newsletter, Sonoma State University, Department of Mathematics and Statistics, 1801 E. Cotati Ave., Rohnert Park CA 94928. You can find more information at the web page

<https://www.nam-math.org/submitting-advertisements-and-articles.html>

Advertising:

NAM Online Advertisement Policy: As a part of its Newsletter Advertising, a copy of the advertisement will be placed on the web during the period it appears in the quarterly Newsletter - at the Job Openings website.

NAM Newsletter Print Advertisement Policy for Non-institutional Members: Receipt of your announcement will be acknowledged. You will be billed after the advertisement appears. A copy of the advertisement will be placed on the *NAM Newsletter* website during the period it appears in the *NAM Newsletter*. To estimate the page size, use 12 point font on a standard size page.

1. One issue advertising

A. One-fourth page	\$200
B. One-third page	\$300
C. One-half page	\$400

D. Two-thirds page	\$500
E. Three-fourths page	\$600
F. One whole page	\$800

*advertisements over one page are pro-rated

2. Consecutive, multiple issue advertising

Each consecutive issue thereafter 75% of the first issue charge.

NAM Newsletter Print Advertisement Policy for Institutional Members: Receipt of your announcement will be acknowledged. You will be billed after the advertisement appears. Institutional Members of NAM are entitled to one 1/4 page advertisement at 1/2 the regular price during the fiscal year of their membership. Additional advertisements follow the above stated cost structure. A copy of the advertisement will be placed on the *NAM Newsletter* website during the period it appears in the *NAM Newsletter*. To estimate the page size, use 12 pt font in your favorite word processing program on a standard size page.

Deadlines: The deadlines for submissions and advertisements can be found in the following table.

Edition	Deadline
Spring	February 13
Summer	May 13

Edition	Deadline
Fall	August 13
Winter	November 13

Advertisements should be submitted electronically to the editor at editor@nam-math.org, or by postal mail to Dr. Omayra Ortega, NAM Newsletter, Sonoma State University, Department of Mathematics and Statistics, 1801 E. Cotati Ave., Rohnert Park CA 94928.

We reserve the right to reject any advertising that is not consistent with the stated goals of NAM, or that is in any way deemed inappropriate.



A Centennial Celebration of David Harold Blackwell at MAA MathFest

by Edray Herber Goins



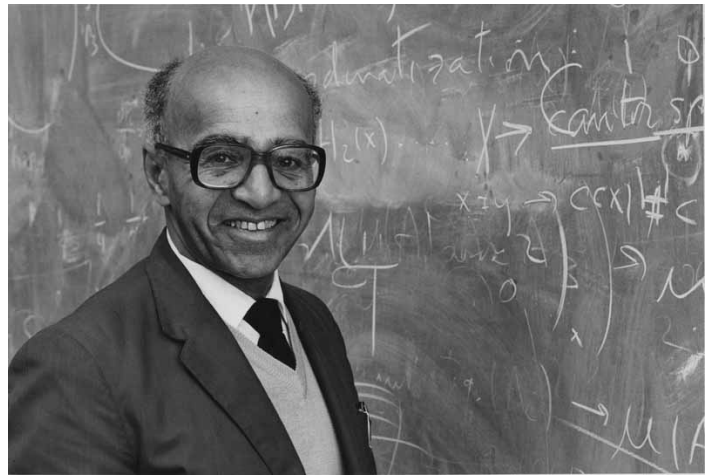
Sylvia Bozeman (left), Edray Goins, and Johnny Houston at the Reception following the MAA-NAM Blackwell Lecture (Photo Courtesy of MAA)

David Harold Blackwell (April 24, 1919 - July 8, 2010) would have turned 100 years old in 2019. The National Association of Mathematicians held a Centennial Celebration at Mathematical Association of America (MAA) MathFest from July 31-August 3, 2019 at the Duke Energy Convention Center (DECC) in Cincinnati, Ohio, by hosting three activities over two days:

- The “Centennial Celebration of David Blackwell” took place on Thursday August 1 both in the morning from 1:30 PM - 3:30 PM. This was an MAA Invited Paper Session.
- The MAA-NAM Blackwell Lecture took place on Friday August 2 from 4:00 PM - 4:50 PM. Johnny L. Houston (Elizabeth City State University) gave an address titled “Dudeney’s No Three-In-Line Problem: Problem, Solutions, Conditions, Progress, and Conjectures”.
- NAM and MAA presented a birthday cake concluding the Blackwell Lecture on Friday August 2 from 5:00 PM - 5:45 PM.

Who Was David Blackwell?

David Harold Blackwell was born on April 24, 1919, in Centralia, Illinois. In 1935, at the age of sixteen, he entered the University of Illinois at Urbana-Champaign where he received his Bachelor of Arts degree in 1938, his Master of Arts in 1939 and his Doctorate in 1941; all in mathematics. He was a postdoctoral fellow at the Institute for Advanced Study from 1941-1942; mathematics department chair at Howard University from 1947-1954; and statistics department chair at the University of California at Berkeley from 1957-1961. He is best known for the Rao-Blackwell theorem in statistics which characterizes the transformation of an arbitrarily crude estimator into an estimator that is optimal by the mean-squared-error criterion.



David Harold Blackwell (April 24, 1919 - July 8, 2010)

Blackwell is arguably the most decorated and well-known of African Americans in the Mathematical Sciences. Blackwell is still the only African American either to address the International Congress of Mathematicians (he addressed the ICM in 1954); to be tenured in the Statistics Department at UC Berkeley (he received tenure in 1955); to be elected as a Mathematician to the National Academy of Science (he was in 1965); to serve



as an Officer of the American Mathematical Society (he was Vice-President in 1968-1969); or to serve as an Officer for the American Statistical Association (he was Vice-President in 1978). In 2002, the Blackwell–Tapia prize was established to recognize individuals who have made significant research contributions in their field, and who have worked to address the problem of under-representation of minority groups in mathematics. In 2018, UC Berkeley named an undergraduate residence hall in his honor.



Carlos Castillo Chavez speaks in the MAA Invited Paper Session on David Blackwell (Photo Courtesy of MAA)



Asamoah Nkwanta speaks in the MAA Invited Paper Session on David Blackwell (Photo Courtesy of MAA)

A Centennial Celebration of David Harold Blackwell

Blackwell would have turned 100 years old in 2019. To commemorate this, NAM hosted an Invited Paper Session for individuals to examine the influence Blackwell has had on the profession. For example, applications of the Blackwell-Rao theorem are far reaching. They are used in finding better estimates in wait times for queues, to improve mobile apps which assist in finding parking, and improve the effectiveness of bike-sharing programs. Speakers in this session explored his influence as a researcher by discussing the importance of the Rao-Blackwell theorem in Statistics and Operations Research, as well as his influence as a department chair as discussed by faculty from Howard University and the University of California. There were six speakers in the session:

- **Ronald Elbert Mickens** (Clark Atlanta University): *The Alternative Universes of David Blackwell and William Claytor* on Thursday August 1 from 1:30 PM - 1:50 PM in DECC 232.
- **Asamoah Nkwanta** (Morgan State University): *Game Theory: A Survey of an Intriguing Contribution of David Blackwell* on Thursday August 1 from 1:50 PM - 2:10 PM in DECC 232.
- **Mark E. Lewis** (Cornell University): *Blackwell's Contribution to Dynamic Programming* on Thursday August 1 from 2:10 PM - 2:30 PM in DECC 232.
- **Kimberly S. Weems** (North Carolina Central University): *David Blackwell: Bayesian Statistics and Contributions to the Statistics Community* on Thursday August 1 from 2:30 PM - 2:50 PM in DECC 232.
- **Carlos Castillo-Chavez** (Arizona State University / Brown University): *Blackwell-Tapia 2000-2018* on Thursday August 1 from 2:50 PM - 3:10 PM in DECC 232.
- **Richard A. Tapia** (Rice University): *Behind the Scenes: The David Blackwell that I Knew* on Thursday August 1 from 3:10 PM - 3:30 PM in DECC 232.



Richard Tapia speaks in the MAA Invited Paper Session on David Blackwell (Photo Courtesy of MAA)

NAM President **Edray Goins** (Pomona College) made some welcoming and closing remarks, while **Talitha Washington** (National Science Foundation / Howard University) served as the moderator. This session was co-organized by **Edray Goins** (Pomona College), **Janis Oldham** (North Carolina A&T), **Talitha Washington** (NSF/Howard University), and **Scott Williams** (SUNY Buffalo).



Johnny Houston, 2019 MAA-NAM Blackwell Lecturer (Photo Courtesy of MAA)

MAA-NAM Blackwell Lecture

Each year the Mathematical Association of America (MAA) honors mathematicians with invitations to deliver a lecture or series of lectures. Examples include the

AMS-MAA-SIAM Gerald and Judith Porter Public Lecture, the AWM-MAA Falconer Lecture, the Hedrick Lectures, the James R. C. Leitzel Lecture, the Pólya Lecture, and the MAA-NAM David Blackwell Lecture.

The National Association of Mathematicians (NAM) established the David Blackwell Lecture as an address to occur during the Mathematical Association of America's (MAA) summer meeting. The MAA-NAM David Blackwell Lecture was officially started in 1994 with an inaugural address by Blackwell himself. Each year NAM invites a mathematical researcher who exemplifies the spirit of Blackwell in both personal achievement and service to the mathematical community. Blackwell first enrolled at the University of Illinois with the expectation to earn a degree in order to get a job as an elementary teacher. In an interview, Blackwell stated "I'm not interested in doing research and I never have been . . . I'm interested in understanding, which is quite a different thing." More information about the MAA-NAM Blackwell Lecture can be found online: <https://www.nam-math.org/blackwell-lecture.html>.



Edray Goins (left) and Johnny Houston after the 2019 MAA-NAM Blackwell Lecture (Photo Courtesy of MAA)



The 2019 MAA-NAM Blackwell Lecture was given by **Johnny L. Houston** (Elizabeth City State University). He gave his address on Friday August 2 from 4:00 PM - 4:50 PM in DECC Grand Ballroom A on *Dudeney's No Three-In-Line Problem: Problem, Solutions, Conditions, Progress, and Conjectures*. In 1917, Henry Dudeney, an Englishman who had done some intriguing things with mathematical puzzles and games, posed an interesting question for persons interested in discrete geometry. Let an $n \times n$ grid be given in the Euclidean plane for any natural number n . Dudeney asked: "What is the maximum number of points that can be identified in the grid so that no three of these points are in the same line (no 3 collinear)?" For various natural numbers n , solutions have been discovered and certain conditions have been encountered. Blackwell lecturer Houston discussed many of these solutions and conditions.

- NAM has turned 50 years old. (The organization was formed in January 1969.)
- The MAA-NAM Blackwell Lecture is now 25 years old. (Blackwell himself gave the first address in August 1994.)

MAA and NAM celebrated these milestones with a reception featuring a birthday cake. NAM President Edray Goins and MAA Executive Director **Michael Pearson** gave a few welcome remarks, while NAM "Golden Anniversary" Capital Campaign Co-Chair **Sylvia Bozeman** (Spelman College) urged audience members to consider giving to NAM to further its efforts to recognize individuals such as David Blackwell.



Edray Goins, Johnny Houston, Sylvia Bozeman, and Omayra Ortega at the Reception following the MAA-NAM Blackwell Lecture (Photo Courtesy of MAA)

The National Association of Mathematicians would like to thank the Mathematical Association of America for continued support, not only for NAM, but for the ever growing community of mathematicians underrepresented in the sciences.

Edray Herber Goins is the President of NAM. He can be reached at president@nam-math.org. □



Cake at the Reception following the MAA-NAM Blackwell Lecture (Photo Courtesy of MAA)

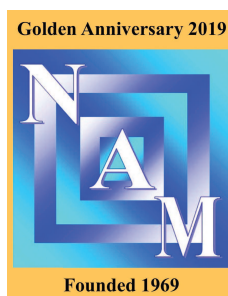
Centennial Birthday Cake

Houston observed in his presentation that 2019 was remarkable for three reasons:

- David Blackwell would have turned 100 years old. (He was born in April 1919.)



Left to Right: Johnny Houston, Asamoah Nkwanta, Mark Lewis, Edray Goins, Carlos Castillo Chavez, Talitha Washington, Kimberly Weems, Richard Tapia, and Ronald Mickens (Photo Courtesy of MAA)



A Call for the Endowment Campaign

The NAM Endowment Campaign is truly about providing opportunities for the development of a diverse talent pool in the next generation of mathematicians, as we acknowledge a legacy of past accomplishments of African-American mathematicians. As a friend of NAM, we know you appreciate the importance of this campaign to the achievement of our shared goals. We invite you to volunteer some effort, small or large, toward reaching the campaign goal of \$2 million by the end of 2019. Please contact one of the campaign co-chairs immediately to ask what YOU can do.

We thank you who already have Life Memberships or have donated to the campaign. We welcome your assistance in identifying other Endowment Donors and look forward to hearing from you soon!

Campaign Co-Chairs,
Johnny Houston jhouston602@gmail.com and Sylvia Bozeman sylvia.bozeman12@att.net



Farrah Jackson Ward Named ECSU's Next Provost

by Robert Kelly-Goss

Dr. Farrah Jackson Ward has been named Elizabeth City State University's next Provost and Vice Chancellor for Academic Affairs. Dr. Ward has been serving as interim provost and vice chancellor.

A graduate of North Carolina A&T, Dr. Ward completed her Master's and Ph.D. in Mathematics at North Carolina State University. Prior to being named interim provost at ECSU, Dr. Ward served as Vice Chancellor for Academic Affairs.

"I am very pleased to have Dr. Ward as ECSU's next provost," said ECSU Chancellor Karrie Dixon. "Dr. Ward has consistently demonstrated effective and strategic leadership throughout her career, and she has the capacity to lead the academic division. We are fortunate to have her on the ECSU team."

After graduating from N.C. State, Dr. Ward was named a Mathematical Association of America Project NExT Fellow and worked as an assistant professor in the Department of Mathematics and Statistics at the University of North Carolina Wilmington. In 2007, she joined the faculty at ECSU where she initially served as the associate director for the Computational Science and Scientific Visualization Center for three years.

Dr. Ward served as coordinator of the M.S. in mathematics graduate program and coordinator of the mathematics education program during her time in the Mathematics and Computer Science Department. In 2010, she was named chair of the Department of Mathematics and Computer Science, a position she held for six and a half years.

During her tenure as chair, ECSU was nationally ranked in the top 10, twice for graduating the largest number of African-Americans with undergraduate degrees in mathematics. In addition, ECSU was ranked as the number one institution in the nation for graduating the largest number of African-Americans with master's degrees in mathematics twice during her time as chair.

In 2016, Dr. Ward was named Associate Vice Chancellor for Academic Affairs where she oversaw the Office of Student Success, Sponsored Programs

and Graduate Education. During her time as the associate vice chancellor, she spearheaded several initiatives aimed at improving student success including the implementation of the degree audit system DegreeWorks, a restructuring of ECSU's academic advising services, and a campus-wide reduction in the number of credits required for graduation from 124-128 credits to 120 credits. In partnership with the John Gardner Institute for Excellence in Undergraduate Studies, Dr. Ward led the Foundations of Excellence (FoE) project, a self-study process to create a comprehensive plan targeted at improving the first-year experience.



Dr. Farrah Jackson Ward

Dr. Ward has published in a variety of areas including mathematics education, mathematics and academic leadership. She has been invited to sit on several panels and has given numerous presentations including delivering the prestigious David Blackwell Lecture during the Mathematical Association of America MathFest Conference.

Dr. Ward has served as principal investigator or Co-PI on several grants from the National Science Foundation and Department of Education and has received nearly \$2 million in external funding. She

currently serves on the Executive Committee for the Association for Women in Mathematics (AWM), the 50th Anniversary Celebration Committee of the National Association of Mathematicians, and as an advisor to the Education Advisory Board (EAB).

Dr. Ward is widely recognized for her work in student success and has been featured in Inside Higher Education, Mathematically Gifted and Black, and by EAB (formerly the Education Advisory Board).

“I’d like to thank the faculty, staff and students who served on the committee or participated in the national search process,” said Chancellor Dixon.

This article first appeared on May 29, 2019 on the Elizabeth City State University Newsroom website

Robert Kelly-Goss is a staff writer for the Elizabeth City State University Newsroom. He can be reached at cam@ecsu.edu. □

Finding Community at MAA MathFest With the New NAM-MAA Blog Editors

by Omayra Ortega and Anisah Nu’Man

This article originally appeared in the MAA Math Values Blog on July 23, 2019.

Hello, world! We are Omayra Ortega, Anisah Nu’Man, Haydee Lindo, Janylle Carter, Jacqueline Brannon-Giles, and Leona Harris; and we are the members of the new NAM-MAA Blog Editorial Board!



Watch <https://www.mathvalues.org/> for posts on teaching ideas, opportunities, current events, and cool math concepts. While you may not hear everyone’s voice in each post, all six of us contribute to each blog post in some way. What’s more, as women of color with degrees in mathematics, we’re rare birds! We reside in California, Texas,

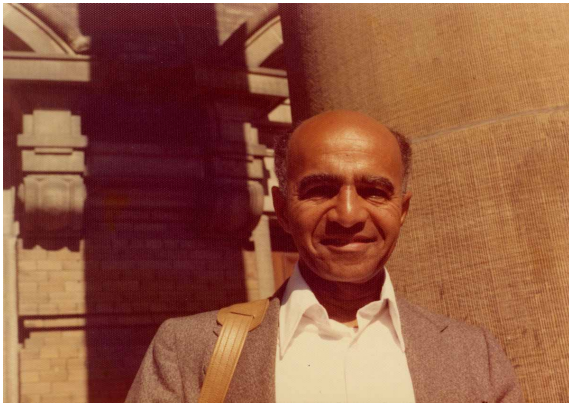
Georgia, Massachusetts, and Washington DC, and are in various stages of our careers. We are a geographically, politically, mathematically, religiously, and culturally diverse group of women, who are all members of the National Association of Mathematicians (NAM). We plan to leverage the diversity of personal experience in this group to contribute thought-provoking posts to the MAA Math Values Blog.

We are currently looking forward to the MAA MathFest, where there are many wonderful NAM sessions planned. The MAA MathFest, which began in 1997, was inspired by an earlier NAM event of the same name (MATHFest) that began just 6 years before, so it makes sense that the MAA and NAM would continue to collaborate on these events, this blog, and many other activities!

One highlight of this year’s MAA MathFest will be the 25th annual David Harold Blackwell Invited Address, Dudeney’s No Three-In-Line Problem: Problem, Solutions, Conditions, Progress, and Conjectures, which will be given by Dr. Johnny Houston on 8/2 at 4pm in Ballroom A of the convention center. This is a historically momentous year to attend the invited address because April 24, 2019 was David Blackwell’s 100th birthday! Dr. Black-



well had to break through many barriers to study, teach, and do research in mathematics. Despite the discrimination he experienced, Dr. Blackwell went on to win the John von Neumann Theory Prize in 1979 and was the first African-American to be inducted into the National Academy of Sciences.



NAM is organizing several special sessions at MAA MathFest in Cincinnati, OH, to honor this great man's legacy, as well as the 50th anniversary of the National Association of Mathematicians. Through his contributions to research and service to the profession, Dr. Blackwell had a lasting impact which is still palpable today. Dr. Blackwell began his career teaching at Southern University, Clark College (now Clark Atlanta University), and served as the chair of the Department of Mathematics at Howard University. He then joined the faculty at the University of California, Berkeley where he was a beloved professor for 34 years and retired in 1988. During his career, Dr. Blackwell served as an officer with multiple professional organizations and supervised over sixty PhD students. He passed away at the age of 91. Dr. Blackwell will be celebrated at MAA MathFest 2019 with the following lectures and events:

Dr. David Blackwell Centennial Celebration Events at the MAA MathFest 2019

Thursday August 1, 2019 DECC Room 232

1. Dr. Ronald E. Mickens (Clark Atlanta University)
The Alternative Universes of David Blackwell and William Claytor
2. Asamoah Nkwanta (Morgan State University)
Game Theory: A Survey of an Intriguing Contribution of David Blackwell

3. Mark E. Lewis (Cornell University)
Blackwell's Contribution to Dynamic Programming
4. Kimberly S. Weems (North Carolina Central University)
David Blackwell: Bayesian Statistics and Contributions to the Statistics Community
5. Carlos Castillo-Chavez (Arizona State University/Brown University)
Blackwell-Tapia 2008-2018
6. Richard Tapia (Rice University)
Behind the Scenes: the David Blackwell that I Knew

In addition, keep an eye out for more information on the NAM-MAA Blackwell Birthday Party on Friday August 2, 2019, at 5pm.

We are also looking forward to some other intriguing invited addresses at the MAA MathFest including Dr. Ami Radunskaya's MAA Invited Lecture Uncertainty: The Mathematics We Don't Know on 8/1 @ 9 am, Dr. Mohamed Omar's Lecture Secrets of Grad School Success on 8/1 @ 1:30 pm, and Dr. Rochelle Gutierrez's MAA James R.C. Leitzel Lecture What's at Stake in Rehumanizing Mathematics? on 8/3 @ 9 am.

MAA MathFest is shaping up to be a great event this year, with so many of the invited lectures, sessions, and workshops planned with an eye towards #inclusivity, #community, #communication, and #teachingandlearning. These are the main themes of the MAA Math Values Blog and they point to the huge mental shift that has begun to address diversity, equity, and inclusion within the mathematical sciences. While great strides are being made, there is still more work to be done. This is why we are highlighting a snapshot of sessions and lectures that are either presented by speakers from varied backgrounds or are on topics related to diversity. We do this to help foster the growth we want to see within our community. This year's MAA MathFest also includes a Contributed Paper Session entitled Diversity, Equity, and Inclusion in Mathematics which will address methods to engage diverse student populations, in particular, underrepresented minority, first-generation, low-income, and female students.



Below are a few talks from the session you might find interesting. See the program for the names of the speakers and their institutions.

Contributed Paper Session: Diversity, Equity, and Inclusion in Mathematics

1. Beyond Leaky Pipes: Fostering Pathways and Persistence in the Mathematical Sciences
2. Change Is a Thing You Can Count On: Adjusting to Meet Diverse Student Needs
3. Diversifying and Humanizing Mathematics through Community Collaboration
4. Inclusive Teaching and Learning of Mathematics in an Afterschool Math Enrichment Program for Underrepresented Minority, First-Generation, Low-Income Students
5. Recruitment, Resilience, and Reaching Higher vis Early Research Experiences

6. The NREUP and Howard's Program

7. Supporting the Transition to Undergraduate Mathematics: Collaborative Learning and Mentoring in Teams

You can find a complete listing of talks and presenters on the MAA MathFest website: <https://www.maa.org/meetings/mathfest>.

We hope you enjoy our post and be sure to stop by next month for a new post on mathematics, #inclusivity, #communication, #community, and #teachingandlearning.

With kind regards,

The NAM editorial board for MAA Math Values Blog

Omayra Ortega and Anisah Nu'Man are two of the six members of the NAM MAA Blog Editorial Board. They can be reached at editor@nam-math.org. □



ICERM



Women in Algebraic Geometry

July 27 – 31, 2020

Organizing Committee:

Melody Chan, Brown University
Antonella Grassi, University of Pennsylvania
Rohini Ramadas, Brown University
Julie Rana, Lawrence University
Isabel Vogt, Stanford University

Program Description:



The Women in Algebraic Geometry Collaborative Research Workshop will bring together researchers in algebraic geometry to work in groups of 4-6, each led by one or two senior mathematicians. The goals of this workshop are: to advance the frontiers of modern algebraic geometry, including through explicit computations and experimentation, and to strengthen the community of women and non-binary mathematicians working in algebraic geometry. This workshop capitalizes on momentum from a series of recent events for women in algebraic geometry, starting in 2015 with the IAS Program for Women in Mathematics on algebraic geometry.

Successful applicants will be assigned to a group based on their research interests. The groups will work on open-ended projects in diverse areas of current interest, including moduli spaces and combinatorics, degenerations, and birational geometry. Several of the proposed projects extensively involve experimentation and computation, which will increase the likelihood that concrete progress is made over the course of five days and provide useful training in computational mathematics.

Image: Alicia Harper



The Institute for Computational and Experimental Research in Mathematics (ICERM) at Brown University:

To learn more about ICERM programs, organizers, program participants, to submit a proposal, or to submit an application, please visit our website: <https://icerm.brown.edu>



CAARMS 25: A Personal Perspective From Dr. Aqeeb Sabree

by Aqeeb Sabree

My name is Aqeeb Sabree, I am a 2019 MAA Project NExT Fellow, and I recently joined the faculty at Xavier University in Cincinnati, OH as a Teaching Professor of Mathematics. I was a member of the National Association of Mathematicians (NAM) throughout my undergraduate career. During which, I attended a number of NAM's Math Fest conferences; my first math research presentation occurred at the National Association of Mathematicians' (NAM) Math Fest conference in 2010. I just graduated this past summer with my doctorate degree in mathematics from the University of Iowa; my research focus was Functional Analysis and Harmonic Analysis.

Dr. Angela E. Grant. I was very excited to attend this conference because the focus centered around Data Science. I have a strong interest in data science and data analytics, and this interest has led me to develop programming skills and earn the Tableau Desktop, a Data Analytics software, certification.



Dr. Sabree attending a CAARMS workshop

CAARMS 25 started on Wednesday, June 19, which happened to be the day after I defended my dissertation! I defended my dissertation Tuesday evening then drove to Chicago, IL to catch my flight to Newark, NJ. My entire conference experience was wonderful. The conference was held at Princeton University and the Institute for Advanced Studies. The first day of the conference began with a workshop, titled J. Ernest Wilkins Workshop for Future Researchers. Dr. William Massey provided an introduction to Data Science, and the day continued with Data Science tutorials. The two most memorable talks were 1) Extremals for Morrey's Inequality by Dr. Ryan Hynd (University of Pennsylvania) and 2) Recent Advances in Random Projections by Dr. Jelani Nelson (UC Berkeley). These talks stood out to me the most because my background is in Functional Analysis.

Aqeeb Sabree is an assistant professor of mathematics at Xavier University in Cincinnati, OH. He can be reached at sabreea@xavier.edu.

□



Dr. Aqeeb Sabree

Let me begin by stating that the twenty-fifth Conference For African American Researchers in Mathematical Sciences (CAARMS 25) was my first CAARMS conference and it was outstanding! CAARMS is unique in that it highlights current research by African American researchers and students in mathematics. Through highlighting current research by African American researchers, CAARMS creates an atmosphere that drives intellectual dialogue and cultivates student and faculty interests in mathematical research. I was awarded the opportunity to present my research at CAARMS; the poster session was titled in honor of

National Association of Mathematicians, Inc. Undergraduate MATHFest XXIX



**Friday, September 27 - Sunday, September 29
Southern University of New Orleans**

NAM's Undergraduate MATHFest is a three-day meeting which rotates around the country based on NAM's regional structure. It is held annually to encourage students to pursue advanced degrees in mathematics and mathematics education. The conference is geared for undergraduates from Historically Black Colleges and Universities (HBCUs), although all are welcome to attend. The conference consists of five components:

Student Talks

There will be ten talks given by undergraduate and graduate students which last 30-minutes each.

Poster Presentations

Students have the opportunity to present posters outlining their research.

Graduate Fair

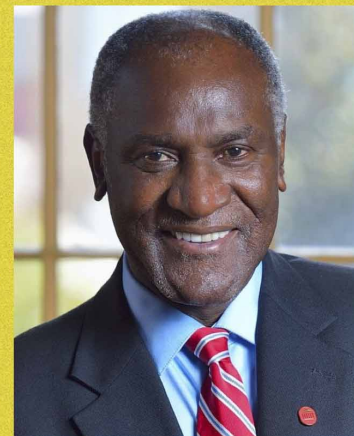
Universities will have an opportunity to showcase their graduate programs and interact with undergraduate students in a one-hour fair.

Problem Time with Dr. Cooper

Throughout the conference, students will be presented challenge problems. Students with correct solutions will be presented prizes.

The J. Ernest Wilkins Lecture

This is an hour-long talk, given by an established researcher, to motivate our undergraduates to continue to pursue research in the mathematical sciences.



2019 J. Ernest Wilkins Lecture
Donald Cole
Associate Professor of Mathematics

Funding is available for travel. To apply for funding, visit the conference website below; the deadline is Monday, September 9, 2019.



<http://www.nam-math.org/mathfest.html#XXIX>





NAM is taking nominations for board positions

The NAM Board of Directors is responsible for the organizing of NAM programming, the oversight of grants, and for making recommendations on the management, policies, and activities of the organization. The success of the NAM depends on a strong Board of Directors, and your involvement in this election is essential for NAMs future.

The **Region C Member** is the Chairperson of the Region C Activity Committee, and is the Vice-Chairperson of the Programs Committee. According to the NAM By-Laws, “The regional and special interest representatives shall consist of persons elected by the general membership to represent designated geographical regions and designated special interest groups. Each person duly elected is to serve as NAM’s liaison person as well as NAM’s Coordinator of Activities for that region/special interest group. State/area representatives shall consist of all persons selected/appointed by NAM’s Board of Directors to serve as NAM’s State/Area liaison persons. Any State, Area or Territory of the United States having two or more HBCU/MI’s qualifies as a candidate for NAM’s Board of Directors to select-appoint a State/Area Representative to serve as a liaison person for the promotion and facilitation of NAM’s activities and affairs in that State/Area/Territory. Region C (Midwest/Southwest) consists of Arkansas, Illinois, Louisiana, Missouri, Mississippi, Ohio, Oklahoma, Tennessee, and Texas.”

The **Community College Member** is the Chairperson of the Membership Committee, and is the Vice-Chairperson of the Region C Activity Committee. According to the NAM By-Laws, “This Committee has the responsibility for keeping the membership of NAM viable. This Committee is to develop proper forms for membership applications, for acknowledging the receipt of membership dues (membership cards), for informing and reminding persons that their dues are in the rear.”

The **Secretary** is Vice-Chairperson of the Region A Activity Committee. According to the NAM By-Laws, “The Secretary shall keep the minutes of all meetings of the Board of Directors and the Corporation, and shall maintain and keep the official records of the Board of Directors/Corporation.”

The **Treasurer** is Chairperson of the Finance Committee. According to the NAM By-Laws, “The Treasurer has oversight of the financial affairs of the Corporation, is responsible for the Corporation’s financial Assets, and shall Chair the Finance Committee She/he shall keep the books of accounts of the Corporation, shall have the primary custody and control of all the monies of the Corporation and shall deposit the same in such banks or other financial institutions as may be designated by the Board. He/she shall pay all legal claims against the Corporation when directed to do so by the Board of Directors. He/she shall make an annual report of the business and finances of the Corporation to the Board of Directors and to the general members of the Corporation, as well as any such reports the Board may request.”

All positions above would take office from February 1, 2020 through January 31, 2023.

Your vote in this election and participation in NAMs governance is important, so we hope we will have a large turnout among the NAM membership for this election. **Contact Michael Young, the Legislation-Nomination Committee chair at majority-institution-member@nam-math.org if you would like to nominate yourself or someone else.** Once nominations are confirmed, elections will run until November 1, 2019. To access the online ballot through the NAM website you will need your username and password that is affiliated with your NAM website account. Only current NAM members will be able to participate. To update your membership status, go to <https://www.nam-math.org/authenticate/register/>.

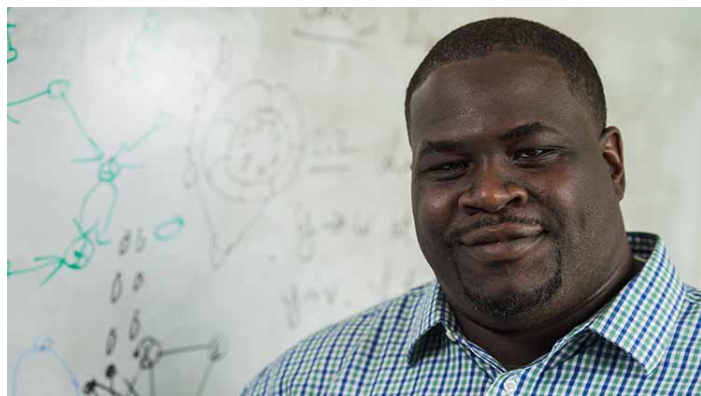


How Illya Hicks is Giving Professional Tools to Scholars

by Patrick E. Kurp

When Illya Hicks visited Rice University after being accepted into graduate school, he was encouraged by University Professor Richard Tapia to enroll in the Spend a Summer with a Scientist (SAS) program.

SAS was the blueprint for the AGEP (Alliances for Graduate Education and the Professoriate) program at Rice, funded in part by the National Science Foundation (NSF).



Dr. Illya Hicks

More than 20 years later, Hicks and Fred Higgs, vice provost for academic affairs at Rice, are returning the favor with their new NSF AGEP grant, aimed at encouraging postdoctoral students in engineering who are members of underrepresented minorities to pursue careers in academia.

“While these AGEP postdocs have already proven themselves technically strong, we want to give them the tools to develop themselves professionally, making them marketable for tenure-track positions in academia. We want to help them achieve success at every professoriate level,” said Hicks, professor of computational and applied mathematics (CAAM).

Rice shares the five-year, \$2 million AGEP award with Georgia Institute of Technology, Florida Agricultural and Mechanical University, and the University of Colorado at Colorado Springs. Rice

will receive \$393,000. Underrepresented minorities include African-Americans, Hispanic-Americans, Native Americans and Pacific Islanders.

A recent NSF report shows that underrepresented minority science, technology, engineering and math (STEM) associate and full professors occupy eight percent of senior faculty positions at all four-year colleges and universities in the country, and about six percent of these positions at the nation’s most research-intensive institutions.

“It’s critical that we work to teach these scholars how to get tenure and advance through the ranks,” said Higgs, the John and Ann Doerr Professor of Mechanical Engineering and director of the Rice Center for Engineering Leadership. “The NSF wants the new AGEP programs to be laser-focused on ensuring the participants actually make it and thrive in academia like Illya did. He is a poster-child for the original Rice AGEP and a mentor to the next generation of minority faculty.”

Higgs noted that three members of underrepresented minority postdoctorates have already agreed to form the inaugural group of AGEP participants at Rice.

The AGEP program calls for an inter-institutional board with leaders from each of the collaborating schools. At Rice, Tapia and Reginald DesRoches, the William and Stephanie Sick Dean of Engineering, serve on it. Tapia is the only non-administrative member on the board.

This article was reprinted with permission from the Department of Computational and Applied Mathematics at Rice University. The original article can be found online at <https://caamweb.rice.edu/news/how-illya-hicks-giving-professional-tools-scholars>.

Patrick E. Kurp is a staff writer for the School of Engineering at Rice University. He can be reached at caam_dept@rice.edu. □





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Unsung Hero: William Claytor – The Third African-American to earn a Ph.D.

by *Sibrina Nichelle Collins*

I recently attended a workshop at Harvard University titled “From Missing Persons to Critical Biography: Reframing Minority Identity in the History of Science, Technology, and Medicine.” Funded by the National Science Foundation, the event was organized by Evelyn M. Hammonds of Harvard and Amy Slaton of Drexel University — both scholars specializing in the history and sociology of science. As a chemist devoted to narratives of the past, I was honored to be in the presence of these and other academics working in fields ranging from science history and biology to medicine and economics.

More importantly, the gathering was itself a signal of our collective commitment to shining a bright light on the too-often forgotten contributions of women and minorities to the fields of science, technology, engineering, and mathematics — which is the very mission of this column.

“The absence of these historical biographies,” Hammonds told those assembled for the workshop last month, “implies that people of color have no interest in STEM.”

A little digging, of course, suggests that’s not the case, and it is in this context — and enhanced spirit — that I herewith share the story of William Waldron Schieffelin Claytor, only the third African-American to earn a Ph.D. in mathematics. Largely unknown to the broader American public, Claytor is yet another “Unsung” STEM hero — and he is one who typifies both the importance of peer mentoring in advancing the careers of people of color, and the tragic legacy of institutional racism that no amount of mentoring could help to overcome.

Claytor was born in Norfolk, Virginia, in January of 1908 — the oldest child of Simsie Thorne, a graduate of the nearby Hampton Normal and Agricultural Institute, and William O. Claytor, an educator at the Southern Norfolk Colored Graded School in Norfolk. When Claytor was five years old, his father moved the family to Washington, D.C.,

where he worked briefly for the U.S. Bureau of Engraving and Printing, after which he established his own dental practice in the nation’s capital.

Claytor himself was educated in the public schools of the city, eventually matriculating to college studies at Howard University — today among the nation’s Historically Black Colleges and Universities — where he earned his bachelor’s degree in mathematics in 1929. He then enrolled in the newly established mathematics graduate program at Howard, earning a master’s degree in 1930. Claytor’s thesis advisor was Dudley Weldon Woodward — who, as it happens, had become the second African-American to earn a doctoral degree in mathematics, this time from the University of Pennsylvania, just two years earlier. (Elbert Frank Cox, also a faculty member at Howard University, was the first African American to earn a Ph.D. in mathematics in 1925, from Cornell University.)



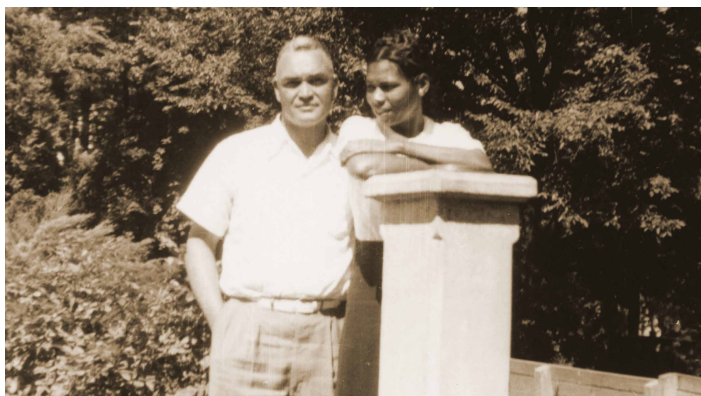
It is impossible to know precisely what Claytor could have accomplished if he had not experienced such obstinate racism in his field. (Image courtesy The Dolph Briscoe Center for American History.)

Woodward had earned his Ph.D. under the direction of UPenn professor John R. Kline, and in his mentoring of Claytor, he encouraged him to apply



to the doctoral program there so that he could work with Kline. Claytor enrolled in 1930, and went on to earn numerous awards and grants, including the Harrison Scholarship in Mathematics and a Harrison Fellowship in Mathematics — both prestigious awards for outstanding students. By 1933, Claytor — an expert in topology, which focuses on the geometric properties of space — had earned his Ph.D., and he published his dissertation a year later.

For all of his acumen, Claytor emerged from his studies with limited job opportunities available to him. During his time, HBCUs were the primary employers of African-American faculty, and he eventually accepted a teaching position at West Virginia State College, where he taught mathematics for three years — including to Katherine Coleman Johnson, who would later work for NASA as a human “computer” and complete orbital space calculations for astronaut John Glenn.



In 1936, Claytor accepted a postdoctoral appointment at the University of Michigan working under the direction of renowned mathematician Professor R.L. Wilder. His position was supported with fellowships and grants through the 1938-39 year and when a permanent faculty position became available in the department of mathematics, Wilder and his colleagues lobbied the administration to hire Claytor. But the barriers of institutional racism were too great to surmount, and Claytor was not offered the position.

Wilder continued to try to help Claytor find an academic position to no avail.

Instead, Claytor enlisted in U.S. Army during the World War II effort, and spent much of his time teaching courses focused on the physics of anti-aircraft artillery. In 1947, at the invitation of David

Blackwell, chair of the mathematics department at Howard University, Claytor returned to his alma mater as a faculty member. One year later, Claytor married the psychologist Mae Belle Pullins, who shared his love of mathematics. The couple had one daughter, and Claytor remained at Howard University until he retired in 1965.

Over the course of his career at Howard, Claytor did give well-received presentations at the national meetings of the American Mathematical Society, but abject discrimination dictated that he was not allowed to stay in the hotels where the meetings were being held, and Claytor eventually stopped attending the conferences all together.

“Claytor had been trained to do mathematical research,” wrote Karen Hunger Parshall, a professor of history and mathematics at the University of Virginia, in a recently published article titled “Mathematics and the Politics of Race: The Case of William Claytor,” “but de jure segregation in the South and de facto segregation elsewhere, left the research universities largely closed to him, and made it hard for him even to participate in the activities of his professional societies.”

Claytor died in 1967 at the age of 59. Thirteen years later, the National Association of Mathematics recognized his contributions to the field by establishing a lecture series in his name. This is the least that could have been done. For while it is impossible to know precisely what Claytor could have accomplished if he had not experienced such obstinate racism in his field, it is no great speculation to assume that the collective body of human knowledge was robbed of something because of it.

This article was reprinted with permission from the author. The original article can be found online at <https://undark.org/article/unsung-william-waldron-schieffelin-claytor/>.

Sibrina Nichelle Collins is an organometallic chemist and former writer and editor for the American Association for the Advancement of Science in Washington, D.C. In July, 2016, she became the first executive director of the Marburger STEM Center at Lawrence Technological University in Southfield, Michigan.. She can be reached at scollins@ltu.edu. □



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Steffen Müller
Quadratic Chabauty

David Zureick-Brown
Classical Chabauty

with **Bjorn Poonen**, Clay Lecturer

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Announcing the Clarence Stephens Abdulalim Shabazz Teaching Award

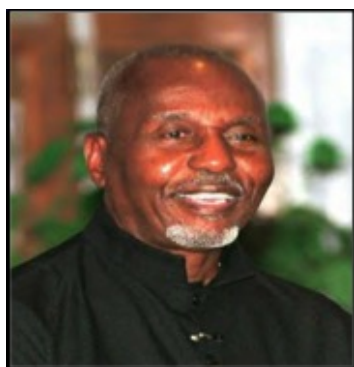
by Edray Herber Goins

NAM is pleased to announce the Stephens-Shabazz Teaching Award. The Board of Directors of the National Association of Mathematicians (NAM) has established a prize in honor of Clarence Stephens and in honor of Abdulalim Shabazz to recognize outstanding mentorship activities.



Clarence F. Stephens

Clarence Stephens (1917 – 2018) came to Morgan State University in 1947 as chair of the Department of Mathematics, but prior to his arrival, no student from Morgan had gone on to earn a masters degree in the mathematical sciences. Some of the undergraduates Stephens taught during this time who went on to earn a doctorate degree are Earl Barnes, Vassily Cateforis, Earl Embree, Gloria Ford Gilmer, Arthur Grainger, Charles Moore, Sylvester Reese, Robert Smith, and Scott Williams.



Abdulalim A. Shabazz

Abdulalim Shabazz (1927 – 2014), born Lonnie Cross, helped establish the reputations of several HBCUs as department chair, and mentored countless students across the country. Shabazz received a mentoring award from the American Association for the Advancement of Science (AAAS) in 1992 as well as a Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM) award from President Bill Clinton in 2000.

This prize will be awarded annually to a mathematics educator who has significantly contributed to the development of mathematical talent in underrepresented undergraduate students and encouraged underrepresented undergraduate students to pursue mathematical careers and/or the study of mathematics at the graduate level, with preference given to faculty from Historically Black Colleges and Universities (HBCUs). The recipient will receive a \$1,000 cash prize and honorary plaque, and will be featured in an article in the NAM Newsletter. The award is open to all in the mathematical profession. Nominees must be living at the time of their nomination.

HOW TO NOMINATE

Anyone interested in nominating an educator for this award should send any questions to stephens-shabazz-award@nam-math.org. More information about the award can be found at the NAM website.

All nominees must meet the following requirements:

1. Must have worked or currently works in the classroom as a faculty at a college or university.
2. Must be a member of an underrepresented minority group (African Americans, Hispanics, and American Indian or Alaska Native) or someone from the African Diaspora.

All nominations must consist of the following in order to be considered complete:

- A 1-page cover letter from the nominator. This document should list contact information about the nominator, the nominee, and the individuals who will submit letters of recommendation.
- A 2-page Curriculum Vitae for the nominee. This must discuss the work of the nominee, not the nominator.
- A narrative, up to 3 pages, outlining the impact the nominee has had as both an educator and a mentor. This narrative should provide evidence of the nominee's sustained track record in outstanding teaching as well as mentoring of underrepresented minority undergraduates in the mathematical sciences. The nominator should include a clear description of the nominee's philosophy with regard to teaching and mentoring. Please provide a description of how the nominee's previous student have progressed in their careers (such as

participation in REUs, earning doctorate degrees, or becoming leaders in the STEM fields) or where the mentees are currently.

- Four letters of recommendation, each up to 2 pages. At least two of these four letters must address the nominee's teaching and at least two must address the impact of mentoring. A least two of these four letters must come from former students, where one letter must address the nominee's teaching while the other must address the impact of mentoring.

Please submit these documents via e-mail to stephens-shabazz-award@nam-math.org. A due date for the 2020 award will be announced at a later date. The 2020 award will be presented at the Joint Mathematics Meetings on Friday, January 17, 2020.

Edray Herber Goins is the President of NAM. He can be reached at president@nam-math.org. □

Imposter Syndrome

by William Yslas Vélez

If anyone should suffer from the imposter syndrome, it should be me. But I don't (See [1] for a description of my undergraduate years). In my early years in the profession I was certainly intimidated by the academic pedigree and background of those around me, their ability to quickly understand the concepts, their powers of deduction and their intuition into mathematics. But intimidation does not mean that I don't belong. Belonging was and continues to be an active and aggressive decision on my part.

My first mathematical experience outside of Arizona was as a summer intern at Bell Laboratories in Murray Hill, NJ. Everyone around me was white,

with degrees from the best institutions, and connections to the best mathematicians in the world. What affected me most over that summer was the lack of personal contact between individuals. I felt invisible. In [2], I described my reaction to being there, but in spite of my alienation, I worked hard and produced a paper during my time there [3].

More than the academic pedigree though is the sheer brilliance of the mathematical community. I chose number theory as my area of research. Over the years I have listened to amazing talks, speakers showing tremendous insights and cleverness. I am so fortunate to have the background to have been able to appreciate the ideas presented. Twice, not



once but twice, I have struggled with an idea for months and Hendrick Lenstra resolved the problems overnight, and I mean literally overnight. In the first instance [4], I had proved that the smallest order of an element in a coset in a finite abelian group actually divided the orders of all elements in that coset and wondered if the result could be more general. A couple of years passed and the problem was brought up at the Berkeley Problem Solving Group. Lenstra provided a counter example the next day [4, 5].



William Yslas Vélez celebrating his retirement!

In mathematics, we are fortunate to be surrounded by brilliance. And this raises the question: Do we belong? Almost any student, at one point or another, will realize that they are not the best student in the class. In fact, for most of us, this will occur in our first college mathematics class. If our goal in life is to be better than anyone around us, life will be a disappointment and a mathematical career will be difficult and disappointing. Part of being a mathematician is submitting an argument in favor of an idea. This submission may encounter criticism, the argument may be incorrect or others may find a shorter more elegant route to the result. This criticism may be difficult for some to take, but it is an integral part of our profession. I, like probably all of us, have received referee's report that combine correct criticism with cutting remarks (like this one that I received early in my career: The author leaves me with the impression that he is not aware of any progress in mathematics in the 20th century). In

my role as advisor to the math club, I would inform the student leaders that the club should not be a showcase for their mathematical skills. So often, these bright students wanted to show off and this discouraged others from participating. Intimidating others with your abilities is a poor foundation for life.

As faculty we can be intimidating to students. We understand the material that we teach very well and we can appear to be so much brighter than the students. But we are not brighter, we are just more knowledgeable and have been blessed with mathematical ability. And I do mean blessed. I think that most students could pass our calculus courses if they had enough dedication and worked hard. Obtaining a doctorate in mathematics is very special. It takes a love of the subject, an increased ability for abstraction and a willingness to spend years in contemplative study. These are special blessings and we should use our blessings to better the lives of the students that we encounter.

Let's think about what is occurring in a mathematics classroom. We introduce some of the most beautiful and important ideas imaginable, ideas that have changed the way we look at life. A mathematics classroom is like an art appreciation class, but much better. In an art class students are given explanations as to why the art is important, how it fits into history, and why it differed from its predecessors. As much as a student might enjoy a painting by Rembrandt, this enjoyment will not help most students create a comparable painting. In mathematics we are introducing mathematical creations comparable to the best art, but we should be providing the students with the ability to create that art for themselves, to arrange that information in their own mind, to connect the new ideas to the established knowledge that students already have. With time, dedication, and practice students become active artists in the creation of new mathematical knowledge. The artistry starts small—solving homework problems. If a student finds pleasure and joy in finding a solution, in understanding a new concept, then this emotion is a sign of belonging to the mathematical community. Emotions are not fake and this joy provides the evidence that the student is not an imposter. When faculty have those

same emotions in research or teaching or scholarly endeavors, this is proof, proof of not being an imposter.

As an undergraduate I never saw the excitement for their subject in my instructors. In fact, most of them looked bored as they taught their classes. Mathematics classes are so often depicted as the instructor droning on. This is especially true of entry level classes. The purpose of an entry level course should be to motivate the student to take the next mathematics course, and not just to satisfy a requirement [6].

Is it possible to re-envision the mathematics classroom? Can we look at mentoring students differently? Our goal should be to bestow on them the wonderful gift that allows for creative expression. It is this gift that allows me to say that I belong to this mathematical community. Though my own mathematical creations are small compared to so many mathematicians, my joy in having been able to resolve some problems is HUGE. I remember going to my thesis advisor's office with an important insight into the problem that I was working on and he said, "No that can't be because the root of unity, because it is not, because. Oh, I see!" In a presentation that I gave at a Western Number Theory Conference as a graduate student, I turned around to see Julia Robinson [7], with a smile of appreciation as she understood my proof.

This is what we are giving to students, this ability to be artists, to create information for themselves based on the cumulative knowledge of our community. And this cumulative knowledge has been created, reformulated, and repackaged by all of us. This is what I think belonging is: to participate in the mathematical enterprise and to have moments of joy in this participation. If students are given the opportunity to create mathematics and find enjoyment in that process, then they are not imposters. They are our colleagues.

I suspect that many students, and also faculty, say they suffer from the Imposter Syndrome. This syndrome is based on outside measures, and not on our inner-life. I recall a statement that appeared on a slide from a presentation by Rochelle Gutierrez, "People need mathematics, but mathematics needs people." The mathematical enterprise needs all of us, our ideas, our enthusiasm and our emotions.

1. SACNAS Biography Project
2. Why do we need minorities among our faculty, Notices of the AMS, November, 2018, Vol 65, Number 10, pages 1057-1059.
3. Some Remarks on a Number Theoretic Problem of Graham, W. Y. Vélez, Acta Arithmetica, XXXII, 1977, pp. 233-238.
4. On a property of cosets in a finite group, W. Y. Vélez, Journal of Algebra 115, No. 2, 1988, pp. 412-413.
5. Some results on radical extensions, F. Barrera Mora and W. Y. Vélez, Journal of Algebra, Vol. 162, No. 2, 1993, pp. 295-301.
6. Mathematics Instruction, An Enthusiastic Activity, William Yslas Vélez, On Teaching and Learning Mathematics, AMS Blogs, August 1, 2014.
7. Julia Robinson Math Festivals

This article was reprinted with permission from the author and the American Mathematical Society. The original article can be found online at <https://blogs.ams.org/mathmentoringnetwork/2019/01/25/imposter-syndrome/>.

William Yslas Vélez is an Emeritus Professor University of Arizona. He can be reached at velez@math.arizona.edu. □



The Need for HBCUs in the STEM Pipeline

by Jacqueline Brannon-Giles

This article originally appeared in the MAA Math Values Blog on July 23, 2019.

“Mathematicians are old White men. You would never fit in. . . . And Gladis, I mean that as a compliment.” -(Comments directed to an African American female participant [student] by a sixth-grade science teacher)

The affective climate in the United States is morphing. The issues that plagued my generation of African Americans, such as overt racism and lack of diversity, seem to be re-emerging in my senior years. CNN and other media have reported an increase in racist and racialized experiences in America. I believe that this only highlights the continued need for Historically Black Colleges and Universities. Statistics indicate that women and minorities continue to be under-represented in STEM professions. The reasons for this are complex but warrant intentional discussion in all spaces that contemplate the development and future of our field. The need for welcoming environments is paramount to increase the presence of women and African Americans in the pipeline to obtain degrees in STEM, especially in mathematics and engineering.

In the past, many colleges and universities did not welcome women and people of color. When I was studying in a doctoral mathematics program in Texas, a professor on my committee asked, “What are you going to do with all of this mathematics?” I answered, “I will teach people who others are unwilling to teach, and go places others are unwilling to go.” My teaching philosophy has historical roots. At a time when institutions were unwilling to teach African Americans, historically black colleges and universities, known as HBCUs, were founded to serve and educate the African American community. The first historically black university, Cheyney University of Pennsylvania, was funded by Quaker Philanthropist Richard Humphreys in 1837. The numbers of such institutions have grown

substantially since then and today they educate students from all backgrounds with an emphasis on those from the African diaspora. In the 1930s there were 121 HBCUs and 102 by 2017.

“Really? Wow! I didn’t think you would be able to answer a question like that! And no one helped you?” -(Comment from an engineering professor directed to an African American female participant)

Successful attempts to increase the number of Black STEM professionals have rested on the cultural, academic climate, and welcoming environment in HBCUs and HBCUs remain a key pipeline into STEM fields.

“Twenty five percent of African American graduates with STEM degrees come from HBCUs. HBCUs graduated 46 percent of black women who earned degrees in STEM disciplines between 1995 and 2004. Eight HBCUs were among the top 20 institutions to award the most Science & Engineering bachelor’s degrees to black graduates from 2008-2012. HBCUs are the institution of origin among almost 30 percent of black graduates of science and engineering doctorate programs.”

HBCUs, like many tertiary institutions across the country, are facing various challenges, but it is imperative that the existing HBCUs be maintained and sustained. Several HBCUs have historically been major contributors to producing mathematics and engineering professionals and new legislation has inspired a need for more students to attain graduate degrees and credits in mathematics. Yet some graduate mathematics programs have not been operational for years. Several HBCUs are working diligently to fully reinstate their graduate mathematics programs.

The failure to quell racism and racialized experiences supports the need to maintain and sustain HBCUs in the United States. There continues to be a need for HBCUs to contribute to the STEM



pipeline.

Call to Action for Readers: What can readers do to support HBCUs?

- Invite faculty and students from HBCUs to present their research at conferences and colloquia
- Learn more about the history and current role of HBCUs
- Attend a conference at an HBCU - for exam-

ple, the recent TPSE conference was held at Morehouse College. Attend future NAM conferences hosted by HBCUs.

Jacqueline Brannon-Giles is a Resident Professor at Houston Community College Central Campus and an Adjunct Professor at Texas Southern University. Additionally, she is one of the six members of the NAM MAA Blog Editorial Board. She can be reached at jbgiles@gmail.com. □



Diversity in mathematics illustrated at the 2019 National Association of Mathematicians Midwest/Southwest Regional Faculty Conference on Research and Teaching Excellence (FCRTE) hosted at Texas Southern University, an HBCU in Houston, Texas

A Call for Letters to the Editor

Envisioning the Next 50 Years of NAM

This year we celebrated NAM's Golden Anniversary. The first 50 years of the National Association of Mathematicians were marked with special sessions at the Joint Mathematical Meetings in Baltimore, MD, the preparation of one of the first Proceedings for the organization, panels, presentations, and even a cake at the MAA MathFest. I would like to honor the founders who had the vision to create this organization by asking that YOU, the membership of NAM, send in letters to the editor envisioning the next 50 years of NAM.

Where would you like to see NAM go in the next 50 years?

What does NAM mean to you?

What hopes and dreams do you have for NAM's programs, NAM's membership, and NAM's mission?

Editor-in-Chief, Omayra Ortega
editor@nam-math.org



CALL FOR APPLICATIONS

Long Programs

Each of the long programs listed below opens with tutorials followed by four research workshops and concludes with a retreat. Participants range from graduate students to senior researchers. Please consult the webpages for more details.

High Dimensional Hamilton-Jacobi PDEs

March 9-June 12, 2020

www.ipam.ucla.edu/hj2020

This program will interface scientists from different fields to advance our understanding of Hamilton-Jacobi (HJ) Partial Differential Equations (PDEs). Applications will be accepted through **November 29, 2019**.

Mathematical Challenges and Opportunities for Autonomous Vehicles | Sept. 14-Dec. 18, 2020

www.ipam.ucla.edu/av2020

This program will bring mathematicians, other scientists, and engineers together to shape the research and development agenda on autonomous vehicles. Applications will be accepted through **May 29, 2020**.

Summer Student Research Programs

IPAM offers several opportunities for both undergraduate and graduate students to engage in industry-sponsored research projects. Applications for the programs listed below will open in the fall and be accepted through **February 12, 2020**. Applicants are encouraged to apply early. For more information, visit: www.ipam.ucla.edu/programs/student-research-programs.



RIPS-Los Angeles

June 22-August 22, 2020

The Research in Industrial Projects for Students (RIPS) Program provides an opportunity for talented undergraduates studying math, computer science, and related disciplines to work in teams on real-world research projects proposed by sponsors from industry or the public sector. This REU program is nine weeks.

Email: rips@ipam.ucla.edu



RIPS-Singapore

June 1-July 31, 2020

The RIPS-Singapore program, in collaboration with the Institute for Mathematical Sciences (IMS) at the National University of Singapore (NUS), will recruit undergraduate U.S. students to work on cross-cultural teams with NUS and ASEAN students on industry projects, each sponsored by a company based in the region.

Email: rips@ipam.ucla.edu



G-RIPS-Berlin

June 22-August 14, 2020

Graduate-Level Research in Industrial Projects for Students (G-RIPS) in Berlin will offer graduate students in mathematics and related disciplines the opportunity to work on industry-sponsored research problems with Research Campus MODAL. Students from the U.S. and Germany will work on cross-cultural teams.

Email: grips@ipam.ucla.edu



G-RIPS-Sendai

June 15-August 7, 2020

G-RIPS-Sendai will offer graduate students in mathematics and related disciplines the opportunity to work on industry-sponsored research problems with the Advanced Institute for Materials Research (AIMR) at Tohoku University. Students from the U.S. and Japan will work on cross-cultural teams.

Email: grips@ipam.ucla.edu



UCLA



www.ipam.ucla.edu

Introducing the Karen EDGE Fellowship Program

by Sylvia Bozeman and Rhonda Hughes

The EDGE Foundation has received an extraordinary gift from Abel Prize winner, Karen Uhlenbeck. Her generous gift is being used to establish The Karen EDGE Fellowship Program. Eligible NAM members are encouraged to apply and to spread the word about this unique and exciting opportunity.

The purpose of the Fellowship Program is to support and enhance the research programs and collaborations of mid-career mathematicians who are members of an underrepresented minority group. Fellows will be chosen by a selection committee consisting of six mathematicians appointed by the EDGE Foundation Board.



The EDGE Program, founded in 1998, is administered by the Sylvia Bozeman and Rhonda Hughes EDGE Foundation, with the goal of strengthening the ability of women students to successfully complete Ph.D. programs in the mathematical sciences and place more women in visible leadership roles in the mathematics community. Along with the summer session, EDGE supports an annual conference, travel for research collaborations, travel to present research and other open-ended mentoring activities. As of 2019, there have been over 250 participants in the EDGE Program, and 101 Ph.D.s awarded. This is an extraordinary number, considering that the program has at most 14 participants per year.

Karen Uhlenbeck won the 2019 Abel Prize for "her pioneering achievements in geometric partial differential equations, gauge theory, and inte-

grable systems, and for the fundamental impact of her work on analysis, geometry and mathematical physics." She is the first woman to win the prize since its inception in 2003. Her confidence in the mission of the EDGE Foundation has made this incredible opportunity available to the mathematics community.

Fellowships are available to mid-career mathematicians employed in full-time positions in the U.S. Applicants must be U.S. citizens or permanent residents with a Ph.D. or equivalent who are underrepresented minorities. Mathematicians of any gender identity are eligible.

The award consists of \$8,000 per year for three years including funds to support one trip per year to the Institute for Advanced Study in Princeton (travel only; the Institute will provide local expenses) to meet Karen and members of the community. Valid expenses include travel by the Fellow, the Fellow's graduate students, or the Fellow's collaborators for the purpose of advancing the proposed research project, scientific computing, supplies, books, and professional memberships. Teaching buyouts or salary supplements are not permitted. An annual progress report and financial statement are expected annually within two months of the end of each academic year.

The application consists of a personal statement (1 page); a research description (2 pages, not including references); curriculum vitae (2 pages); a three-year plan for use of the Fellowship (1 page); a budget outline (1 page, including travel to Princeton, NJ); and current and pending funding support. Applications will be submitted through <https://www.mathprograms.org/db/programs/843> and are due by February 1, 2020. Three awardees will be announced by May 1, 2020.

Sylvia Bozeman and Rhonda Hughes are the co-founders of the *Enriching Diversity in Graduate Education (EDGE) Program*. They can be reached at rhughes@brynmawr.edu. □





MAA Project NExT

NEW EXPERIENCES IN TEACHING

Launch the NExT stage of your career

The first round of applications for the 2020 cohort of MAA Project NExT has a deadline of **October 15, 2019**. Applications can be found at projectnext.maa.org. New(ish) faculty who are already in full-time teaching positions are strongly encouraged to use this deadline. Decisions will be made by December 1, 2019. Those accepting positions during this academic year (to start Fall 2020) may use the second application deadline of **April 15, 2020**.

MAA Project NExT (New Experiences in Teaching) is a year-long professional development program for new or recent PhDs in the mathematical sciences. The program is designed to connect new faculty with expert teachers and leaders in the mathematics community and address the three main aspects of an academic career: teaching, research, and service.

Recent program sessions have included:

- getting your research and grant-writing off to a good start,
- innovative teaching and assessment methods and why they work,
- finding your niche in the profession,
- attracting and retaining underrepresented students,
- balancing teaching, research, and service demands,
- starting an undergraduate research program, and
- preparing for tenure.

MAA Project NExT Fellows join an active community of faculty who have become award-winning teachers, innovators on their campuses, active members of the MAA, and leaders in the profession.

MAA Project NExT welcomes applications from new and recent PhDs in postdoctoral, tenure-track, and visiting positions. We particularly encourage applicants from underrepresented groups, including women and minorities. Applications can be found at projectnext.maa.org.

Project NExTers (Silver '19) at MAA MathFest in Cincinnati.



Application deadlines: October 15, 2019 and April 15, 2020
projectnext.maa.org • projectnext@maa.org

Job Openings

Department of Mathematics – Grand Valley State University

Grand Valley State University, an affirmative action equal opportunity institution in Allendale, Michigan, is accepting applications for one position at the rank of Assistant Professor of Mathematics, with employment to begin on August 6, 2020.

Qualifications for the position include: Ph.D. in Mathematics or related field, with a focus or experience in Applied or Computational Mathematics, expected by August 2020; commitment to contribute to our recently implemented applied mathematics major; dedication to excellence in teaching undergraduate mathematics; commitment to maintaining a productive program of scholarship; and evidence of critical, reflective thinking about the teaching and learning of mathematics at the undergraduate level.

Interested candidates should apply online at <http://gvsu.edu/s/192>. Complete applications must be received by 5:00 PM EST Friday, November 8, 2019.

Department of Mathematics and Statistics - California State University, Long Beach

One tenure-track Assistant Professor in Mathematics Education beginning August 17, 2020. Candidates must have a Ph.D. or Ed.D. in mathematics education, statistics education, or related field with background in educational research. Details of the position, including Required and Preferred Qualifications and Duties, can be found at <http://www.csulb.edu/academic-affairs/faculty-affairs/assistant-professor-of-mathematics-education-2595>. All materials shall be submitted online at <http://www.mathjobs.org/jobs/CSULB>. Review of applications will begin on October 15, 2019 until position filled or canceled.

Visiting Lecturer Diversity Fellowship – The Community College of Philadelphia

The Community College of Philadelphia is offering **Visiting Lecturer Diversity Fellowship Opportunities for Criminal Justice, Foundational Math, or Business Leadership degree holders**. We offer viable career planning in higher education, intentional mentoring, and a teaching component. For more information, visit <http://jobs.ccp.edu/postings/3788>. **The deadline for all applications is Wednesday, July 10th, 2019.**

Morgan State University – Department of Mathematics

The Department of Mathematics at Morgan State University invite applications to fill two tenure-track Assistant/Associate Professor positions starting August, 2019 with an emphasis on Industrial and/or Computational Mathematics. **To Apply:** Submit an AMS Cover Sheet, CV, statements of teaching philosophy and research, official transcript(s), and 3 letters of recommendation to: Search Committee, Department of Mathematics, Morgan State University 1700 E. Cold Spring Lane Baltimore, MD 21251. Position will remain open until filled.

Morgan State University is an Equal Opportunity Affirmative/Action Employer



Hamilton College – Mathematics and Statistics Department



The Mathematics and Statistics Department at Hamilton College invites applications for a **two-year position, with reappointment possible, at the rank of Visiting Assistant Professor or Visiting Instructor, beginning July 1, 2020**. We seek candidates to teach statistics, machine learning and related courses. In particular, we are seeking candidates who can contribute to a proposed interdisciplinary program in Data Analytics. Candidates with ABD will be considered, although candidates with a Ph.D. are preferred.

Commitment to excellence in all aspects of undergraduate teaching and mentorship is essential, as is a passion for working with students, both in and beyond the classroom, in a vibrant department that is currently averaging between 40 and 50 majors per year. Prior teaching experience is desirable. The teaching load for this position is five courses. Active scholarship is expected, and candidates should indicate how both their research programs and related teaching interests would contribute to the department's curriculum. For more information see: <http://hamilton.edu/academics/math/default.html>.

Finally, we are seeking candidates who can demonstrate their experiences in teaching or working with diverse student populations. Your application should include a diversity statement which addresses the ways in which you would further the College's goal of building a diverse educational environment.

A complete application consists of a cover letter, a current curriculum vitae, research, teaching and diversity statements, and three letters of reference, including at least one that evaluates teaching. These may be submitted electronically at <http://www.mathjobs.org/jobs/jobs/14102>. Questions regarding the search may be directed to Sally Cockburn, Search Committee Chair, at scockbur@hamilton.edu. Review of applications will begin on December 15, 2019 and will continue until the position is filled.

Hamilton (www.hamilton.edu) is a residential liberal arts college located in upstate New York. Applicants with dual-career considerations can find other Hamilton and nearby academic job listings at www.upstatenyherc.org, as well as additional information at <https://www.hamilton.edu/dof/faculty-development/resources-for-prospective-or-new-faculty/opportunities-for-spouses-or-partners>. Hamilton College is an affirmative action, equal opportunity employer and is committed to diversity in all areas of the campus community. Hamilton provides domestic partner benefits. Candidates from underrepresented groups in higher education are especially encouraged to apply.

Agnes Scott College – Department of Mathematics

Agnes Scott College, a highly selective, independent national liberal arts college for women located in metropolitan Atlanta, invites applications for a **tenure-track position in mathematics beginning Fall 2020**. The teaching load is five semester courses per year, class sizes are small, and the college is committed to providing its faculty with a supportive academic environment that includes a balance of teaching, research, and service. For details, please see our ads at <https://eims.ams.org/jobs/12734177/> and <https://www.mathjobs.org/jobs/1785>, and visit the department at <https://www.agnesscott.edu/mathematics/>. Agnes Scott College enrolls a socially and economically diverse student body, and has a strong commitment to diversity. The college urges members of underrepresented groups to apply. EOE.



University of Michigan – Department of Mathematics

The University of Michigan's Department of Mathematics is initiating a search for **an appointment in algebra, analysis, or related fields at the tenure-track assistant, associate, or professor level**. This will be a university-year appointment beginning September 1, 2020. All ranks are encouraged to apply. Candidates should hold a PhD in Mathematics or a related field (e.g. Statistics); have extraordinary credentials in algebra, analysis, or related fields; and show outstanding promise and/or accomplishments in both research and teaching. Salaries are competitive and are based on credentials. Junior candidates should furnish a placement dossier consisting of a letter of application, curriculum vitae and three letters of recommendation; senior candidates may send a letter of application, curriculum vitae and names of three references. In all cases, please provide a statement of teaching philosophy and experience, evidence of teaching excellence and a statement of current and future research plans. Application materials should be submitted electronically through the AMS website <http://www.mathjobs.org/>. Alternatively, applications may be sent to: Personnel Committee, University of Michigan, Department of Mathematics, 2074 East Hall, 530 Church Street, Ann Arbor, MI 48109-1043. Applications submitted by September 15, 2019 will receive full consideration. Applications received after the deadline may still receive consideration. Inquiries may be made by e-mail to math-fac-search@umich.edu. More detailed information regarding the Department may be found on our website: <https://lsa.umich.edu/math/>. Women and minority candidates are encouraged to apply. The University of Michigan is supportive of the needs of dual career couples and is an equal opportunity/affirmative action employer.

University of Michigan – Department of Mathematics

The University of Michigan's Department of Mathematics is initiating a search for **an appointment in financial mathematics or related fields at the tenure-track assistant, associate, or professor level**. This will be a university-year appointment beginning September 1, 2020. All ranks are encouraged to apply. Candidates should hold a PhD in Financial Mathematics or a related field; have extraordinary credentials in the area of financial mathematics or related fields; and show outstanding promise and/or accomplishments in both research and teaching. Salaries are competitive and are based on credentials. Junior candidates should furnish a placement dossier consisting of a letter of application, curriculum vitae and three letters of recommendation; senior candidates may send a letter of application, curriculum vitae and names of three references. In all cases, please provide a statement of teaching philosophy and experience, evidence of teaching excellence and a statement of current and future research plans. Application materials should be submitted electronically through the AMS website <http://www.mathjobs.org/>. Alternatively, applications may be sent to: Personnel Committee, University of Michigan, Department of Mathematics, 2074 East Hall, 530 Church Street, Ann Arbor, MI 48109-1043. Applications are considered on a continuing basis but candidates are urged to apply by October 1, 2019. Inquiries may be made by e-mail to math-fac-search@umich.edu. More detailed information regarding the Department may be found on our website: <https://lsa.umich.edu/math/>. Women and minority candidates are encouraged to apply. The University of Michigan is supportive of the needs of dual career couples and is an equal opportunity/affirmative action employer.



California State University, San Bernardino – Department of Mathematics



The Department of Mathematics at California State University, San Bernardino (CSUSB) invites applications for **tenure-track assistant professor positions** in the following three areas to begin August 2020: Algebra, Statistics, and Mathematics with demonstrated interest in Mathematics Education. Our department seeks faculty with a strong commitment to excellence in teaching at the undergraduate and master's levels, including familiarity with evidence-based effective practices for teaching, as well as the potential to foster faculty-student collaborative research. In addition, we seek candidates with the potential to engage in a robust research agenda. Qualified applicants with experience in ethnically diverse settings and/or who demonstrate a commitment to serving diverse student populations are strongly encouraged to apply. As a designated Hispanic Serving Institution, CSUSB reflects the dynamic diversity of our region. We are committed to building and sustaining a vibrant academic community that welcomes and supports all individuals. Complete descriptions of each position and required application materials may be found at the following links. Applications received by October 4, 2019, will receive full consideration.

Algebra: <https://www.mathjobs.org/jobs/jobs/14256>

Math (general): <https://www.mathjobs.org/jobs/jobs/14257>

Statistics: <https://www.mathjobs.org/jobs/jobs/14258>



THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

CHAIR OF MATHEMATICS DEPARTMENT

The University of Alabama at Birmingham (UAB) invites nominations and applications for the position of Chair of Mathematics. The department is well positioned for growth as it moves into a new state-of-the-art building in June 2019. With the commitment of leadership, the new Chair will have the opportunity to guide the development of long and short-term plans to strengthen curriculum, build interdisciplinary programs and elevate the Department's national reputation through increased research and publications.

Reporting to the Dean, College of Arts & Sciences, the Chair is expected to drive innovation, inspire new ideas that will transform basic math offerings and expand advanced degree programs to align with UAB's strategic plan 2023. The College and the faculty are interested in creating an environment that will encourage collaboration and build bridges between mathematics and computer science, actuarial science, genomics, engineering and emerging fields that are hugely data intensive. It is the intent that such collaborations will result in interdisciplinary courses and programs. Administrative responsibilities include fiscal responsibility, departmental administration, overseeing the accreditation process and compliance with professional organization requirements. The new Chair is expected to maintain research and scholarship activity with excellent administrative support to assist with departmental responsibilities.

UAB is the single largest employer in Alabama and home to the third largest public academic medical center in the country. The University has enjoyed record enrollment for the third consecutive year with Fall of 2018 enrollment at 21,923, federal research funding is at an all-time high and the footprint of UAB continues to grow with new state-of-the-art buildings. Birmingham is within driving distance to Atlanta, Memphis, Nashville and New Orleans. The "Magic City" is noted for a vibrant music scene, fine dining, warm weather, a culture embracing diversity and good schools.

A profile can be found at: <https://www.agbsearch.com/searches/chair-of-mathematics-department-university-of-alabama-at-birmingham>.

Applications and nominations should be received by **October 11, 2019**, although applications will be considered until the position is filled. Applications must include: a letter of interest stating applicable experience as outlined in the leadership profile; a cv or résumé; a list of five professional references and the names of three individuals who could prepare letters of reference in support of the application.

Applicants MUST apply through the University of Alabama at Birmingham portal at <http://uab.peopleadmin.com/postings/5039>

The Chair of Mathematics search is being assisted by:

Joy Yablonsky, Executive Search Consultant, AGB Search, C: (215) 934-1386, E: joy.yablonsky@agbsearch.com



UAB is an Equal Opportunity/Affirmative Action Employer committed to fostering a diverse, equitable and family-friendly environment in which all faculty and staff can excel and achieve work/life balance irrespective of race, national origin, age, genetic or family medical history, gender, faith, gender identity and expression as well as sexual orientation. UAB also encourages applications from individuals with disabilities and veterans.



Loyola Marymount University – Mathematics Department

The Mathematics Department of Loyola Marymount University invites applications for a **tenure-track position at the Assistant Professor level beginning Fall 2020**. Responsibilities include teaching, advising, maintaining an active program of scholarship, and engaging in university service. Applicants are expected to have completed a Ph.D. or comparable terminal degree in mathematics, statistics, operations research, or a related field by employment commencement in Fall 2020.

The successful candidate will have expertise in statistics, data science, or a related field. Those with expertise in computational methods are encouraged to highlight this in their application. LMU is committed to broadening the participation of students in STEM fields, and applicants should include a statement describing their experience, demonstrated ability, and/or interest in promoting inclusion and diversity in the mathematical sciences.

The Mathematics Department at LMU is an inclusive community of 18 full-time faculty members and approximately 60 mathematics majors, 40 minors, and 15 Master of Arts in Teaching students. The department offers Bachelor of Science degrees in mathematics and applied mathematics, and a Bachelor of Arts designed for students interested in pursuing a career in mathematics education. Faculty in the department work in many areas of pure and applied mathematics in an atmosphere of mutual respect and collegiality. The normal teaching load is 9 units per semester with the possibility of a reduced teaching load in the first two years. For additional information visit <https://cse.lmu.edu/department/math>. Salary is competitive and commensurate with background and experience. LMU provides comprehensive benefit offerings and robust support for faculty. For more information visit

<https://admin.lmu.edu/hr/totalrewards/benefits>

or review the Faculty Resource Guide at <https://academics.lmu.edu/ofd/newfacultyorientation>.

Loyola Marymount University, a Carnegie classified R2 institution in the mainstream of American Catholic higher education, seeks qualified applicants who value its mission and share its commitment to inclusive excellence, the education of the whole person, and the building of a just society. LMU is an equal opportunity employer. Women, persons of color, LGBTQ and gender-nonconforming individuals, people living with disabilities, and others with diverse life experiences and beliefs are encouraged to apply. (Visit www.lmu.edu for more information.) Screening of applications will begin November 15, 2019. Apply online at jobs.lmu.edu/postings/40670. Please address questions to Prof. Anna Bargagliotti, Hiring Committee Chair, at Anna.Bargagliotti@lmu.edu.

Santa Clara University – Department of Mathematics and Computer Science

Assistant Professor, Statistics: The Department of Mathematics and Computer Science at Santa Clara University, a Jesuit, Catholic University, is offering a tenure track position at the rank of Assistant Professor in theoretical Statistics or any applied area of Statistics (e.g., Biostatistics). Tenure stream faculty are expected to balance a commitment to quality undergraduate teaching with an active, sustainable research and publication program, as well as provide effective service to the Department, College, and University. Candidates should be prepared to teach six courses per academic year during three quarters. The position begins September 1, 2020, by which time a Ph.D in Statistics or a closely aligned field is required. The closing date for applications is November 30, 2019. Santa Clara University, located in California's Silicon Valley, is an AA/EEO employer. For more information, see www.scu.edu/hr/careers/faculty.cfm.

Application: <https://jobs.scu.edu/postings/9130>



Johns Hopkins University – Department of Mathematics

The Department of Mathematics at Johns Hopkins University invites applications for a **tenure-track or tenured faculty position beginning July 1, 2020**. Algebraic geometry and algebraic topology are areas of priority for this search; however, exceptional candidates in all areas of pure mathematics may be considered. Applications must be submitted online at <http://www.mathjobs.org/jobs/jhu>. Consideration of applications will begin on November 1, 2019, and will continue until the position is filled.

Johns Hopkins University is committed to active recruitment of a diverse faculty and student body. The University is an Affirmative Action/Equal Opportunity Employer of women, minorities, protected veterans and individuals with disabilities, and encourages applications from members of these and other protected groups. We are committed to conducting a broad and inclusive search for a candidate who, through their research, teaching, and service, will contribute to the diversity and excellence of the JHU community. Consistent with the University's goals of achieving excellence in all areas, we will assess the comprehensive qualifications of each applicant. For questions concerning this position, please contact Joyce Moody at joycem@jhu.edu.

Pomona College – Department of Mathematics



Tenure track position at Pomona College in the areas of Analysis, Topology, Geometry, or Probability. Applied mathematicians and those working with data encouraged to apply. See full job ad and apply at Mathjobs.org. Pomona College is an equal opportunity employer and especially invites applications from women and members of underrepresented groups. Apply by December 1, 2019, to receive full consideration.

Kenyon College – Department of Mathematics and Statistics

Kenyon College – Assistant Professor of Mathematics Tenure-Track Position - The Department of Mathematics and Statistics at Kenyon College seeks to fill a **tenure-track position at the assistant professor level beginning July 2020**. A Ph.D. in applied mathematics or a Ph.D. in mathematics with an applied specialty is required, as well as prior teaching experience at a U.S. college or university. Kenyon faculty members are excellent teachers who maintain strong research programs. The successful applicant will expand and enhance the applied mathematics offerings of the department. We are particularly interested in candidates with experience in active learning pedagogies. Ability and willingness to include undergraduates in research is also desirable.

For complete application instructions, please visit: <http://careers.kenyon.edu>. There you will begin the application process by registering and completing the demographic section of the Kenyon College application. All other materials must be submitted electronically via www.mathjobs.org. Applications should be submitted by October 8, 2019, to ensure full consideration. We will, however, continue to accept applications until the position is filled.

PLEASE NOTE: In order for your application packet to be considered complete, the demographic section of the Kenyon College application must be filled out AND all application materials must be submitted electronically through the mathjobs.org website.

University of Nebraska–Lincoln – Department of Mathematics

Applications are invited for **one tenure-track position in algebra or geometry, starting August 2020**. The successful candidate will have a Ph.D. in mathematics and a demonstrated potential for excellence in mathematics research and teaching. Preference will be given to applicants who (i) have a documented research background in an area of algebra or geometry, particularly in commutative algebra, algebraic geometry, geometric group theory or closely related field, and (ii) have the potential to interact with and strengthen existing research groups within the Department of Mathematics.

Applicants should submit a letter of application, a CV, separate statements addressing research and teaching, and at least three letters of reference, at least one of which should address teaching. Applicants are encouraged to use the AMS application cover sheet and to submit their applications via mathjobs.org. If using mathjobs.org is not possible, hard copies may be sent to: Tenure-Track Search Committee Chair, Department of Mathematics, 203 Avery Hall, University of Nebraska-Lincoln, Lincoln, NE 68588-0130.

In addition, to be considered for the position, applicants must also complete the Faculty/Administrative application at <http://employment.unl.edu>, requisition #F_190101. Review of applications will begin October 18, 2019 and continue until the position is filled. For more information see the department's web site at www.math.unl.edu.

As an EO/AA employer, qualified applicants are considered for employment without regard to race, color, ethnicity, national origin, sex, pregnancy, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, marital status, and/or political affiliation. See <http://www.unl.edu/equity/notice-nondiscrimination>

The College of New Jersey – Department of Mathematics and Statistics

The Department of Mathematics and Statistics at The College of New Jersey (TCNJ) invites outstanding applicants for a **tenure-track Assistant Professor position in Applied Mathematics** to join our community starting August 2020. The successful candidate will be passionate about teaching a wide range of mathematics courses at every level of the undergraduate curriculum in a primarily undergraduate, residential, liberal arts-centered institution. We invite applications from all areas of applied mathematics, and we are especially interested in candidates whose research focuses on Numerical Analysis, Modeling and Simulation, Scientific Computing, Operations Research, or Signal Processing. In order to guarantee full consideration, applications should be submitted through mathjobs.org by **November 1, 2019**.

East Stroudsburg University – Mathematics Department

East Stroudsburg University invites applications for a full-time, tenure-track position in the Mathematics Department beginning in Spring 2020 or Fall 2020. The department is seeking a professional with a Ph.D. and experience in Mathematics Education to teach general education and advanced courses for majors in the Department of Mathematics and to support mathematics needs in the College of Arts and Sciences, mathematics education needs in the College of Education, and mathematics needs in the other Colleges in the University.

Applicants are to apply through <https://esu.csod.com/ats/careersite/JobDetails.aspx?site=1&id=3137>

ESU is an Equal Opportunity/Affirmative Action Employer.



Events of Interest to NAM Members

A complete list of events containing these and more can be found online:

<https://www.nam-math.org/upcoming-activities.html>



StatFest 2019: September 21. The American Statistical Association's (ASA) StatFest will take place on September 21, 2019 at the University of Texas Health Science Center at Houston. More information can be found on the StatFest web site.

NAM Undergraduate MATHFest XXIX will be at Southern University of New Orleans September 27-29, 2019. NAM's Undergraduate MATHFest is a three-day meeting held annually to encourage students to pursue advanced degrees in mathematics and mathematics education. The conference is geared for undergraduates from Historically Black Colleges and Universities (HBCUs), although all are welcome to attend.

The Creativity Research Group is recruiting faculty to develop and implement creativity-based tasks in Calculus 1 with the goal of broadening students' participation in STEM. We have NSF-funding to provide instructors a stipend for Spring 2020 and Fall 2020 participation. Please see the web-site for more information, including how to apply: <http://www.creativityresearchgroup.com/nsf-grant.html>. The deadline is rolling, but the Spring 2020 cohort will receive their decisions around Oct 1, 2019. If you have any questions, please email creativityresearchgroup@gmail.com

The Seventh International Conference on Mathematical Modeling and Analysis of Populations in Biological Systems (ICMA VII) will be hosted by the School of Mathematical and Statistical Sciences, Arizona State University, Tempe, Arizona, on October 12- 14, 2019. The broad, general theme of the conference is the formu-

lation, validation, analysis and simulation of mathematical models for the spatiotemporal dynamics of biological populations. Specific topics to be covered include, but are not limited to, modeling, data analytics and analysis of phenomena in population biology, epidemiology, molecular and synthetic biology; mathematical oncology (cancer systems biology); genetic models; multi-host-vector-pathogen systems; persistence of ecosystems and uncertainty quantification in the life sciences. The National Science Foundation has provided funds to support limited number of US graduate students and early career researchers (who do not have travel support) to attend ICMA VII. Further details about the conference (registration, travel, abstracts, financial support, deadlines etc.) are available at the web-site: <https://math.asu.edu/icma-2019>. Contact Email: icma2019@asu.edu



Modern Math Workshop: October 30-31. The Mathematical Sciences Diversity Initiative holds a Modern Math Workshop (MMW) prior to the SACNAS National Conference each year. The 2019 MMW will be hosted by MSRI in Honolulu, HI on October 30th and 31st, 2019.

The Modern Math Workshop includes a keynote lecture, mini-courses, research talks, a question and answer session and a reception. The two mini-courses will be *An Introduction to Optimal Mass Transportation* run by **Dr. Wilfrid Gangbo** (University of California, Los Angeles) and *An Introduction to Matroid Theory* run by **Dr. Anastasia Chavez** (University of California, Davis).

Applications for funding to attend the MMW close on July 8, 2019. More information can be found at the web site <https://www.msri.org/workshops/943>.





The Field of Dreams Conference (Nov 15-17, 2019) introduces potential graduate students to graduate programs in the mathematical sciences at Alliance schools as well as professional opportunities in these fields. Scholars spend time with faculty mentors from the Alliance schools, get advice on graduate school applications, and attend seminars

on graduate school preparation and expectations as well as career seminars. Learn more here.

AAAS Science & Technology Policy Fellows bring their STEM expertise to Washington. You impact policy across a broad range of issues, in all three branches of government: Executive, Legislative and Judicial. How would you spend a year in Washington? Share your vision: Start your S&T Policy Fellowships application today! Applications are due November 1.



Applications are invited for **MORE: Mathematics - Opportunities in Research and Education**

MORE is a new, annual workshop to engage students in highly relevant mathematics tied to applications that address societal needs. Activities include invited presentations, panels, roundtable discussions, and breakout sessions, all with a focus on community building.

www.math.vt.edu/MORE

Travel support is available. First-generation college students and students from groups underrepresented in mathematics are especially encouraged to apply.

Hosted jointly by Virginia Tech and Clemson University.

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math.ias.edu/emergingtopics
- WOMEN & MATHEMATICS**
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THE SCHOOL OF MATHEMATICS

THE IAS SCHOOL OF MATHEMATICS welcomes applications from mathematicians and theoretical computer scientists at all career levels, and strongly encourages applications from women, minorities, and mid-career scientists (5-15 years from Ph.D.). Competitive salaries, on-campus housing, and other resources are available for periods of 4-11 months for researchers in all mathematical subject areas. The School supports approximately 40 post-docs per year.

In 2020-2021, there will be a special-year program, **GEOMETRIC AND MODULAR REPRESENTATION THEORY**, led by Geordie Williamson of the University of Sydney; however, Membership will not be limited to mathematicians in this field.

MID-CAREER

Are you 5-15 years from your Ph.D.? Ask us about funding!
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DEADLINE: DECEMBER 1, 2019 · MATHJOBS.ORG



New from the AMS

Women Who Count

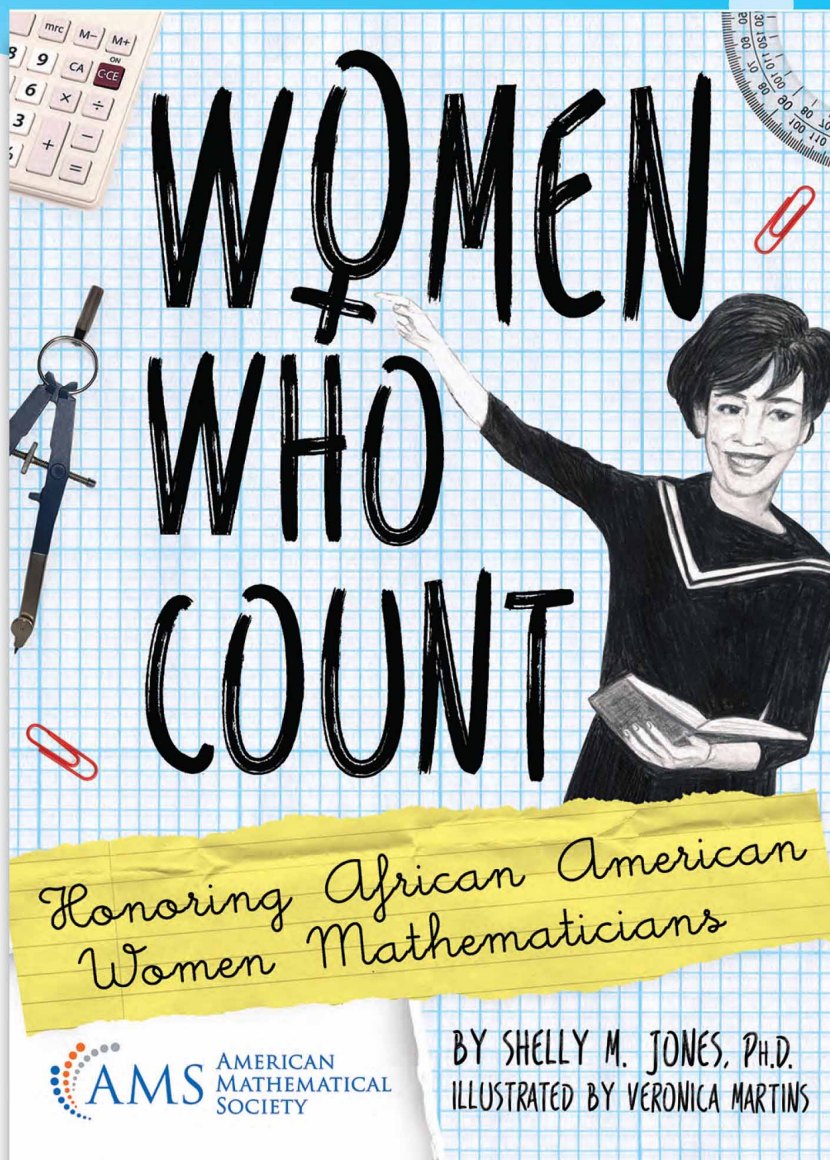
Honoring African American Women Mathematicians

Shelly M. Jones, *Central Connecticut State University, New Britain, CT*

Tessellations, palindromes, tangrams, oh my! *Women Who Count: Honoring African American Women Mathematicians* is a children's activity book highlighting the lives and work of 29 African American women mathematicians, including Dr. Christine Darden, Mary Jackson, Katherine Johnson, and Dorothy Vaughan from the award-winning book and movie *Hidden Figures*. Although the book is geared toward children in grades 3–8, it is appropriate for all ages.

The book includes portrait sketches and biographies for the featured mathematicians, each followed by elementary-school and middle-school activity pages. Children will enjoy uncovering mathematicians' names in word searches, unscrambling math vocabulary words, solving equations to decode interesting facts, using logical thinking to uncover magic squares, locating hidden objects on an "I Spy" page, and more! They will also read about the important contributions of Drs. Martha Euphemia Lofton Haynes, Evelyn Boyd Granville, and Marjorie Lee Browne, the first three African American women to receive doctoral degrees in mathematics. Other women profiled include contemporary mathematicians who will inspire today's children to become tomorrow's leaders. *Women Who Count* is a must-read for parents and children alike!

2019; 143 pages; Softcover; ISBN: 978-1-4704-4889-9; List US\$15; AMS members US\$12; MAA members US\$13.50; Order code MBK124



This is a great endeavor! I'm looking forward to meeting the kids inspired by the book!

—Dr. Chelsea Walton

I applaud the author's creativity! This activity book is a unique way to expose children early to mathematical ideas and to a part of American history that is not readily accessible at a young age.

—Dr. Sylvia T. Bozeman

Diversity of representative images of Black women in all facets of life is so important for all. Thank you to Shelly Jones for providing a platform to celebrate the contributions of Black women to mathematics.

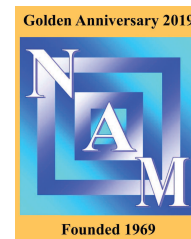
—Dr. Candice Price



Learn more about this title at
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Undergraduate MATHfest	\$500,000
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Faculty Teaching & Research Institute	\$250,000
Haynes-Granville-Browne Colloquium Presentations by New PhDs	\$125,000
Claytor-Woodard Lecture	\$125,000
Cox-Talbot Address	\$125,000
J. Ernest Wilkins Lecture	\$125,000
Albert T. Bharucha-Reid Lecture	\$125,000
David Blackwell Lecture	\$125,000
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Preserving the past while endowing for the future!



The National Association of Mathematicians (NAM), Inc. is a non-profit professional organization in the mathematical sciences with membership open to all.

NAM's Mission

- To promote excellence in the mathematical sciences.
- To promote the mathematical development of underrepresented American minorities.

Major Activities by Season!

WINTER: NAM National Meeting at the JMM, Claytor-Woodard Lecture, Haynes-Granville-Browne Colloquium of Presentations by new PhDs, Cox-Talbot Address and Stephens-Shabazz Teaching Award

SPRING: Regional Faculty Conference, Albert T. Bharucha-Reid Lecture

SUMMER: David Blackwell Lecture, Summer Student Computational Science Institute

Fall: Undergraduate MATHFest, J. Ernest Wilkins Lecture

NAM Golden Anniversary Campaign 2018-2019

The National Association of Mathematicians (NAM) will celebrate its **50th Anniversary Year** in 2019. During 2018 and 2019, NAM will conduct a **GOLDEN ANNIVERSARY CAMPAIGN** with the goal of establishing an Endowment Fund of at least **\$2 million** to serve as base support, ensuring vibrant annual programs and activities for many years into the future. During the campaign NAM expects to:

- Increase its membership of Regular, Life, Student, and Institutional Members
- Endow several annual programs, lectures, and other activities
- Solicit increased support from the broader community, including friends, philanthropists, foundations, companies, and other supportive enterprises.

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Computational Sc. Institute	\$250,000
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Haynes-Granville-Browne Colloquium Presentations by new PhDs	\$125,000
Claytor-Woodard Lecture	\$125,000
Cox-Talbot Address	\$125,000
Albert T. Bharucha-Reid Lecture	\$125,000
J. Ernest Wilkins Lecture	\$125,000
David Blackwell Lecture	\$125,000
Clarence Stephens-Abdulalim Shabazz Teaching Award	\$125,000
Archives	\$125,000

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