National Association of Mathematicians

Newsletter

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Contents

Preserving Black Joy While Preserving Black Excellence

Dr. Emille Davie Lawrence (*University of San Francisco*), Dr. Raegan Higgins-Siwatu (*Texas Tech University*), Dr. Candice Price (*Smith College*), Dr. Mohammad Omar (*Harvey Mudd College*), Dr. Farah Jackson Ward (*Elizabeth City State University*), and Dr. Michelle Craddock-Guinn (*Belmont University*) in a fun photo taken during simpler times at the 2020 Joint Mathematics Meetings in Denver, CO)

The National Association of Mathematicians (NAM)
publishes the NAM Newsletter four times per year.

From the Editor

"Is there room among the woke for the awakening?"
- Dr. Rochelle Gutierrez.

Hello friends,

African-Americans live every day in a country that has never fully allowed us to join its lofty ideals and principles. That struggle is real and it is unacceptable. Each day that I watch the news I feel sadness, frustration, grief, anger, and numbness. What is happening now requires a response, we must not only speak out against racism and injustice, but we must ACT.

As someone who has been working to mitigate structural racism in higher education for most of my life, I feel fatigue when I see the slow rate at which things change. Slow incremental change serves the status quo of patriarchy, white supremacy, and class war. I ask myself daily, 'what actions will you take to improve our world?' Rather than get caught up in all that I can't achieve, I focus on completing the following assignment each day, and keep these intentions in mind as I go through my daily routine: I acknowledge that Black folks (and others) are hurting, I have discussions on race and current issues in my own family and circles, I reach out and get to know someone of another race or culture, I try to meet more of my neighbors, I read and learn about history from the perspective of other cultures, I understand and accept that we are different and have similarities as human beings, pause and think before I speak, I don't intentionally use my privilege to hurt someone else, I do unto others as you would have them do unto you, I vote in local, statewide and national elections, and I provide positivity, joy and appropriate humor when I can.

In the middle of a the main square, the site of daily protests in Columbus, OH, a colleague witnessed a large circle of mostly European-Americans forming a human shield around a large Black Joy event taking place. I loved hearing this story. While each of us are busy fighting the good fight we need to remember to also preserve our joy and to preserve the joy of Black and brown people whenever and wherever we can.

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`. You can find more information at the web page

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Deadlines: The deadlines for submissions and advertisements can be found below.

Edition	Deadline
Spring	February 13
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Dr. Talitha M. Washington Appointed Inaugural Director of the Data Science Initiative
by Cedric Mobley

This article originally appeared on the AUCC website on July 15, 2020.

ATLANTA, Georgia, July, 15, 2020 – Following an extensive national search and selection by the presidents of member institutions Clark Atlanta University, Morehouse College, Morehouse School of Medicine, and Spelman College, the Atlanta University Center Consortium (AUCC) announces the appointment of noted scholar, author, interdisciplinary researcher, and innovator Talitha M. Washington, Ph.D., as the new director of the AUCC Data Science Initiative. A collaboration between the AUCC member institutions, the AUCC Data Science Initiative is working to increase the number of highly-skilled underrepresented minorities with skills in data science and to advance data science research, especially as it impacts minority communities. Increasingly relevant to most employment fields and academic disciplines, data science transforms information into highly relevant data using analytical methods such as algorithms, statistics, data mining, and predictive analysis.

Dr. Washington begins her tenure as director in mid-August.

Learn more about the Data Science Initiative here: https://aucenter.edu/academic-career-services /data-science-initiative/.

Dr. Washington's experience includes inventive leadership in math education, research methodologies, and partnership development, serving most recently as a program director at the National Science Foundation (NSF) and a tenured associate professor at Howard University. Her multifaceted career includes management of use-inspired convergence research to solve complex societal challenges. Her work at NSF facilitated the integration of interdisciplinary knowledge with data science using methods including predictive artificial intelligence and economic and labor market analyses,

leading to innovation and the development of educational technologies connecting workers with the jobs of the future. Her published authorship includes groundbreaking work on nonstandard finite difference (NSFD) methodologies developed for various systems of differential equations.

A Spelman College graduate and internationally-featured speaker and presenter, Dr. Washington was recently recognized by NSF as a Women's History Maker and received the Black Engineer of the Year STEM Innovator Award. She received the NSF Director's Award for Superior Accomplishment for her work in establishing NSF's first Hispanic-Serving Institutions Program, a $40 million initiative.

The search committee included faculty from each AUCC member institution and the AUC Woodruff Library along with leaders from industry and prominent university-based data science institutes. The committee was chaired by Morehouse School of Medicine professor Peter MacLeish, Ph.D., with the assistance of higher education executive search firm Harris Search Associates.

"With our broad goal of impacting the trajectories of societies throughout the world, Dr. Washington is uniquely suited to lead the development of data science expertise across the Atlanta Univer-

sity Center institutions," said Todd Greene, executive director of the Atlanta University Center Consortium. "Her unique combination of experience in program development, education, funding, and alliance-building will help forge connections among and between the Atlanta University Center students and faculty with global corporations, government agencies, and other colleges and universities."

Dr. Washington will enjoy the strong support of AUCC faculty, researchers, librarians, and administrators.

"Clark Atlanta University welcomes Dr. Washington on her appointment to serve as the Atlanta University Center Consortium's Data Science Director," said Dr. George T. French Jr., Clark Atlanta University president and AUCC Council of Presidents chair. "Her strong leadership and impressive track record in this field of study will advance the new Data Science Initiative and improve technological capabilities for all students within the Atlanta University Center."

"I look forward to working with Dr. Washington as she leads the AUCC Data Science Initiative to address the disparity of minorities in tech and other fields," said Dr. David A. Thomas, president of Morehouse College. "Our campuses will soon produce hundreds of students annually who will be well-equipped to compete internationally for lucrative careers in data science. The skill sets of a data scientist are in demand in a dynamic economy. In fact, the career is ranked among the top three occupations on Glassdoor's 'Best Jobs in America in 2020' list. Working in data analytics will allow our students, many of whom come from low income families, to build wealth after college and use their talents to become entrepreneurs."

"Our modern economy and society are increasingly fueled by interdisciplinary solutions that are based on the ability to extract insights using data science and data analytic approaches," added Valerie Montgomery Rice, Morehouse School of Medicine president. "I, along with the entire MSM team, look forward to what Dr. Washington's appointment will mean for the AUC collectively and for each institution individually as she coalesces the amazing faculty and student scholars who are engaging in this important work."

"At a time when data— it's analysis, visualization, and its use to predict and model— has become even more critical to the global challenges we're facing, the entire Spelman community is pleased to welcome Dr. Washington as the AUCC Data Science Director," said Dr. Mary Schmidt Campbell, Spelman College president. "Dr. Washington's award-winning expertise in mathematics, strong leadership and innovation in higher education and at the National Science Foundation, and her decades of research and advocacy for inclusivity in STEM fields align with the mission of the AUCC's Data Science Initiative."

Dr. Washington is ready to begin her new role.

"The Atlanta University Center has always been a special place to me, encompassing some of the most respected institutions in our nation including two liberal arts colleges, a research university, and an academic medical center," she said. "I look forward to working with the faculty, students, staff and alumni, along with our industry and governmental partners, so that collectively, we can provide data-driven solutions to our current and emerging societal problems."

About Dr. Talitha Washington

Dr. Washington's leadership includes service as a Convergence Accelerator (C-Accel) program director in the Office of Integrative Activities at the National Science Foundation. In that role, she managed use-inspired convergence research to solve complex societal challenges by integrating knowledge from different disciplines. Through partnerships between academia, industry, foundations, government, and nonprofits, she worked to connect workers with the jobs of the future using predictive artificial intelligence tools, economic and labor market analyses, and the development of educational technologies. At NSF, she also served as the principal program director overseeing review and funding of data science proposals within the Division of Undergraduate Education, focusing on proposals related to improving education for the future STEM workforce. In addition, she led the establishment of a $40 million congressionally-mandated program to build undergraduate STEM capacity at the nation's 539 Hispanic-Serving Institutions (HSIs), assuming responsibility for budgeting, proposal review, and

awards.

An applied mathematician, she earned tenure as an associate professor and faculty member at Howard University. Her published authorship includes groundbreaking work on nonstandard finite difference (NSFD) methodologies developed for various systems of differential equations. She has also held academic positions in mathematics and research at Duke University, the College of New Rochelle, and the University of Evansville.

A graduate of Spelman College with a Bachelor of Science degree in mathematics and minor in Spanish, Dr. Washington received both a Master of Science degree in mathematics and a Ph.D. in mathematics from the University of Connecticut. She also earned certificates in executive leadership and fundraising from the Wharton School of the University of Pennsylvania, Georgetown University, the Association of Fundraising Professionals, and the Society for the Advancement of Chicanos/Hispanics and Native Americans in Science.

While a student in the Atlanta University Center, she tutored in Spelman's math lab, played in the Morehouse College Marching Band, and conducted research at Clark Atlanta University.

Cedric Mobley *is the media contact at the* *AUCC Media Center. He can be reached at* `cmobley@aucenter.edu`. ☐

Sisters, How Y'all Feel? Brothers, Y'all Alright?
by Anisah Nu'Man

This article originally appeared in the MAA Math Values Blog on May 27, 2020.

One day, before the start of my Linear Algebra class, a student asked everyone their thoughts on the following quote: *"You have not lived a full life, if you have not been depressed."* Though I was caught off guard by the student's question, since then, the quote and subsequent class discussion has prompted me to think more about mental health within the Black mathematics community.

May is Mental Health Awareness Month. The National Alliance on Mental Illness (NAMI) defines a mental illness as a, "condition that affects a person's thinking, feeling, or mood. Such conditions may affect someone's ability to relate to others and function each day." According to NAMI, each year, 1 in 5 U.S. adults experience mental illness. Within the Black and African American communities, according to Mental Health America, over 6.8 million people who identified as Black or African American had a diagnosable mental illness in the past year.

An increasing number of studies, op-ed pieces, and blog posts have looked at mental health within academia. Each stage of an academic career presents itself with its own struggles and obstacles. In the Trends in college students' mental health diagnoses and utilization of services, 2009-2015, a survey of 454,029 undergraduates in the United States, found an increase from 14% in 2009 to 19% in 2015 in the number of students reporting getting professional mental health at their institutions. This trend continues into graduate school. An exhaustive study on the mental health of PhD candidates in

2019, Nature PhD Survey 2019, found that, "36% of respondents have sought help for anxiety or depression caused by PhD studies. One-third of them sought help from places other than their institution, and 18% sought help at their institution but didn't feel supported."

As we continue to navigate living in the midst of a global pandemic, now seemed like an appropriate time for this blog to focus on mental health within the Black mathematics community. Notably, the conversation with my students about mental health started in one of my upper-level mathematics courses at Spelman College, a historically Black college for women. As math majors, these students are, in some sense, entering our profession. It feels important to appreciate how their experiences, as young female Black mathematicians, will inform the ways they experience this profession. During the conversation, I recognized that this unique classroom setting allows for discussions on the intersection of mathematics, gender, and race within academia - from the undergraduate experience to that of a tenured professor - and the impact this intersectionality can have on one's professional and personal life.

If one is considering the mental health of Black women in mathematics, one must be aware that identity markers, such as "Black" and "women," add to the conversation of mental health. Intersectionality theory, originally coined by law professor Kimberlé Crenshaw in 1989, "takes into account people's overlapping identities and experiences in order to understand the complexity of prejudices they face." Intersectionality theory provides a useful theoretical framework for reflecting on the experiences of women of color in mathematics. I know from personal experience that having these layered identities, of being a Black woman mathematician, can add stress in what can already be a stressful profession.

In writing the series of posts for this blog, the NAM Editorial Board to the MAA Math Values Blog has tried to bring awareness to some of the challenges that one might face: maybe you deal with isolation at your institution and have struggled to find community and mentorship; it is possible that your institution lacks a complete commitment to diversity and inclusion; maybe you're struggling to balance research, teaching, and service during this global pandemic; or perhaps your teachers or colleagues don't seem to acknowledge your achievements and so you feel the constant need to prove yourself. As Dr. Ebony McGee said in an interview on Black college students and mental health, "we have witnessed black students work themselves to the point of extreme illness in attempting to escape the constant threat of perceived intellectual inferiority." All of these experiences, and many others, can have a negative impact on one's mental health.

Mental illness can happen to anyone but people of color are less likely to receive competent care when they seek it. Specifically, the American Psychiatric Association writes, "rates of mental illnesses in African Americans are similar with those of the general population. However, disparities exist in regard to mental health care services. African Americans often receive poorer quality of care and lack access to culturally competent care." But when it comes to those who seek help, people of color are less likely to seek professional help. Even more alarming, as Dr. Erica Martin Richards, chair and medical director of the Department of Psychiatry and Behavioral Health at Sibley Memorial Hospital, puts it in Mental Health Among African-American Women that, "women are at least twice as likely to experience an episode of major depression as men [...] and compared to their Caucasian counterparts, African-American women are only half as likely to seek help."

So how do we address issues of mental health within the mathematics community, and in particular, within communities of color? First, we must do a mental health check-in with ourselves. We all recognize that life has its ups and downs, and moments of happiness and sadness. But there is a distinction between sadness and depression. Sadness is a normal human emotion that every single person will experience at stressful or somber times and usually passes with time. If it does not pass, or if you become unable to resume normal function, this could be a sign of depression. Depression is a mental disorder that has an overpowering effect on

many parts of a person's life. To respond to my student's original quote, in my opinion depression is not a marker of a full life. I believe depression is an indication that you should seek help, and there is no replacement for the help you can get from a mental health professional.

Your mental health should always be a priority. This involves (1) moving past negative stigmas associated with seeking help and (2) reducing the false narrative that you just have to "stick it out," "push through it," or "develop tough skin." Too often, as a society we value over-working at the expense of our own physical and mental health. In addition to seeking professional help, there are a number of ways you can protect your emotional health through various self-care practices such as: (1) getting good rest, (2) exercising regularly, (3) eating well, (4) staying connecting with your community (5) meditating or praying, and (6) knowing your limits. In addition to the tips listed above, the NAMI provides a number of suggestions for personalized self-care strategies. For us to do the work that we do and serve our communities we must first take the time needed to care for ourselves.

Anisah Nu'Man *is an Assistant Professor of Mathematics at Spelman College. She can be reached at* `Anisah.NuMan@Spelman.edu`.   □

Lift Ev'ry Voice: Supporting DVC Umoja Students in Math
by Jamylle Carter

This article originally appeared in the MAA Math Values Blog on July 27, 2020.

"Lift ev'ry voice and sing
'Til earth and heaven ring
Ring with the harmonies of Liberty"
　– "Lift Every Voice and Sing"
　　(Black National Anthem)
　　James Weldon Johnson and John Rosamond
　　Johnson

On my sabbatical leave from Diablo Valley College (DVC) in Spring 2018, I conducted focus groups of thirteen students who identified partly, if not solely, as African-American. I asked them about their experiences in their mathematics classes, ranging from pre-algebra to precalculus. All the students were in the DVC Umoja Learning Community, an affiliate of the multi-state Umoja Community that promoted the success of African-American and other students at the college level. Two students credited the Umoja program for their remarkable academic turnarounds. Although they had struggled in my Spring 2017 intermediate algebra class, they had raised their grade point averages to 3.6 and 4.0, and they were acing the accelerated algebra class

that they were taking together at the time of the interview. Here I will share four instructor qualities that I believe made their academic transformations possible. (Names have been changed to maintain privacy.)

Compassion

Umoja students needed their professors to respect the learning process and address any gaps in their prior knowledge without judgment.

Ajua: *I think we're not perfect when we go in, so they shouldn't expect that from us. They shouldn't expect us to know everything and just be like, "Okay, you guys remember from ..." stats or whatever from two years ago or something like that. I know teachers that do that. It would be nice if they did a little recap instead of assuming everybody knows.*

Kealan: *I feel like certain professors, they don't really let you ... they don't believe in failure. Like, sometimes you have to fail in order to succeed, and I feel like certain professors don't believe in that, they just feel like, "You have to succeed all the time. If you don't, then you're just going to fail, you're never going to do it again....And it's just like ... it makes me feel like I'm never going to amount to anything if you're just saying that....Yeah, and don't look at it as failure, look at it as a bounce-back. If you bounce back from it, there's no such thing as a loss. That's how I would view it as. If there were more professors like that ... oh my God. I would love math. I swear.*

Connection

Umoja students wanted to be connected to their instructors and to each other. They wanted their instructors to share more of themselves and inquire about the students' well-being before diving into the material:

Ajua: *Just have the teachers kind of show a bit more of themselves, I think.*

Kealan: *Because I just feel like, when you're in a math class you have to take it very seriously, there's no laughing, there's no, "How are you, how's your day going?" They're not trying to get to know you, they're just looking at you as a student and just get on with class....when I'm in Umoja I feel that each professor, they really want to know how you are as a whole person, not just as a student, not just as someone who comes to your class. They really want to see how you are, they want to get to know you. So that would be one suggestion that I would probably say to the leaders, is just be more interactive and have some ... be human, basically. They're acting like androids nowadays. It's 2018, just come on, be friendly.*

They felt accountable for each other's successes, so they wanted to support one another, build a community, and feel like a family. Kendra: I think for me [my most pleasant experience came from] understanding the curriculum and helping other people understand it too. Helping tutor. Helping out a friend that needs help in the same math class. So, you're not just bettering yourself in the math course, you're also bringing up somebody else.

Comfort

Once the Umoja students sensed compassion and connection, they felt comfortable enough to ask questions in class or in the math tutoring center.

Kealan: *I use the math lab. The tutor was...so helpful....[She] made me comfortable while I was able to open up with her with the difficulties I was having in this class. I feel like that's really important if you're going to be working with a tutor. You should feel comfortable first and you should be able to open up to them about what dif-*

ficulty that you're having. They shouldn't judge you on that or anything. They're willing to help you. That's how I felt with the tutor…in the math lab. When she was able to help me, she told me, "Don't ever feel that way because there are a lot of students on this campus that that's the same way, but they're just afraid to speak up about the difficulties and the problems that they're having. You're not alone." That made me feel so much better.

Students who felt disconnected from their classmates were less likely to ask questions in class:

Kendra: *Not in front of the class. Because the environment that you're inside of the class, it feels like everybody already knows things. Like nobody's asking questions. Everybody just, it seems like you're coming into something that everybody's already perfected it and you're the only one that's left behind. I just wait till after class.*

Challenge

Umoja students were not asking for special favors. They wanted to be challenged and master the material. They were willing to be uncomfortable in order to engage with the mathematics content. They just wanted to be respected in the process.

Andretta: *What I liked about your class too is you made us get up and do it. At first I was like, "I don't want to get up," but it actually helped. It actually helped to have you there and be like, "Oh no, not that. Do it like this." You would show us how to do it and give us tips. I liked that. Even though it made me uncomfortable at first, I was all like, "Okay."*

They wanted to and knew that they could rise to high expectations, and they wanted instructors to counter the narrative that math is difficult. These students had the growth mindset that they could

be successful:

Robert: *I just feel like in the black community we're … Math isn't hard, math is really … I feel like if you just put in the work, it's doable, because I never thought I'd ever get an A in stats, especially over the summer, and I did. So I feel like you really just put in the work, but I don't know. Like in the black community, in my opinion, growing up I always thought math was gonna be … People were saying math is hella hard, so I set it in my mind, like damn, math is really hard. But it's really not.*

Conclusion

Umoja students sought compassionate mathematics instructors who created a sense of community in the classroom. Once they felt connected to their instructor and classmates, they became comfortable asking questions and engaging with challenging mathematics. Extending compassion, creating connection, making students comfortable, and challenging students with mathematics were only four things that these Umoja students needed from their mathematics instructors to be successful.

As mathematics faculty, we really need to listen to our students and highlight their voices, their experiences, and their challenges if we want to address their needs. I have experienced both the presence and the absence of these qualities of **compassion, connection, comfort, and challenge** in my own educational experience as a Black woman mathematician. But before we can help, we must listen. Umoja means "unity" in Kiswahili, and some of the qualities that create a unified community are the ones listed here. May we all take heed.

Jamylle Carter is a Professor of Mathematics at Diablo Valley College and serves on the NAM Editorial Board for the MAA Math Values Blog. She can be reached at `jcarter@dvc.edu` .   □

The African Diaspora Joint Mathematics Workshop at MSRI seeks applicants
by Caleb Ashley

The African Diaspora Joint Mathematics Workshop [ADJOINT] is a newly established program at the Mathematical Sciences Research Institute [MSRI] Berkeley, CA which seeks to support African American participation in mathematical research. As a discipline mathematics resists divisions, though the profession of mathematics abounds with them. Considering the many ends to which mathematics is employed, some of these divisions are more natural than others. Research is a gainful vanguard of the profession, often divided from teaching, a noble rearguard. Depending on the institution where one is based, or the stage in one's career, theory and practice maybe permuted as to reverse the order of marching, vanguard becoming rearguard and vice versa. The quantitative evidence (however you would like to measure) of the want of participation of African Americans in mathematical research is an example of a less natural division.

MSRI is one of eight national research institutes, each having its own unique charge. MSRI's mission is to advance mathematics research and also advance the public understanding of mathematics. MRSI has a distinguished record among institutes regarding diversity, equity and inclusion. Regarding African American mathematicians, MSRI was host to the first Conference for African-American Researchers in the Mathematical Sciences, CAARMS, in 1995. MSRI-UP is a tremendously successful program for underrepresented undergraduates which has a tenure of the best part of fifteen years. William Thurston, who was a Director of MSRI from 1992 until 1997, was serious about MSRI's emissary role. By way of emphasizing the above record, I offer a quote of W. Thurston which implies a profoundly formative need of supportive community for mathematics to thrive. "Many people think of mathematics as austere and self-contained. To the contrary, mathematics is a very rich and very human subject, an art that enables us to see and understand deep interconnections in the world." —

I don't think anyone can say it finer than that.

ADJOINT is a new program, that is desperately needed. ADJOINT operates on the principle that diversity is not separate from excellence. A main focus of ADJOINT is forming community. ADJOINT was piloted in 2019. The inaugural cohort, summer 2020, was fully remote. Via four to five small research groups for each summer cohort, collaboration and research programs are developed, leading to presentations at conferences and publications in refereed journals, ultimately the thriving and advancement of diverse faculty in mathematical sciences. In addition to mathematics research projects, professional development such as grant writing, academic leadership, tenure promotion, also are part of the ADJOINT program. In so doing the spirit behind all of the programing of ADJOINT is the edification of the entire mathematical profession and all mathematical communities.

If you have said to yourself, "I am busy," or "I am too overwhelmed," I hope this advertisement will encourage you to reconsider and apply! There is tremendous benefit to getting established in supportive community while pursuing research. **The application deadline for the summer 2021 cohort is December 15, 2020**. There will be four research groups in the summer of 2021 led by: Emma K. T. Benn ("Racial/Ethnic Disparities in Health: Applying a More Nuanced Inferential Framework"), Nathan Broaddus ("Steinberg Modules of Braid Groups"), Julie Ivy ("Using Decision Modeling to Personalize Policy in Complex Human-Centered Problems"), and Danny Krashen ("Adventures in Constructive Galois Theory.")

Although race is a part of the mythology of the modern world, mathematics is a truly a human endeavor; global in scope. The establishing of the ADJOINT program at MSRI must be celebrated as a mechanism for fashioning more diversity, equity, and inclusion in mathematical research and the profession as a whole. There are multiple inertial forces, racism and elitism among them, which can be named in opposition of such work. So our success will be determined by our courage and by the energy we put forward to sustain all the work needed to be done, until all of it is indeed done. Please see the following link for application details: APPLY.

Caleb Ashley is on the MSRI-ADJOINT Board of Directors and a Visiting Professor of Mathematics at Boston College. He can be reached at (caleb.ashley@bc.edu. □

The 2021 Karen EDGE Fellowship Program
by Rhonda Hughes

For the second year, the EDGE Foundation is offering a fellowship established by 2019 Abel Prize winner, Karen Uhlenbeck, recognized for "her pioneering achievements in geometric partial differential equations, gauge theory, and integrable systems, and for the fundamental impact of her work on analysis, geometry and mathematical physics." Her generous gift has been used to establish The Karen EDGE Fellowship Program. 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 members of an underrepresented minority group. Mathematicians of any gender identity are eligible. Eligible NAM members are encouraged to apply and to spread the word about this unique and exciting opportunity. This year, three Fellowships were awarded to: Pamela Harris, Mohammed Omar, and Bobby Wilson. In 2021, one Fellowship will be awarded.

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. As of 2020, there have been over 250 participants in the EDGE Program and 104 Ph.D.s earned. The Karen EDGE Fellowship is the newest program administered by the EDGE Foundation.

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 the 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 to https://www.mathprograms.org/db/EDGE/980/ and are due by February 1, 2021. One awardee will be announced by May 1, 2021.

Rhonda Hughes *is one of the co-founders of the Enriching Diversity in Graduate Education (EDGE) Program. She can be reached at* `rhughes@brynmawr.edu`*.* □

A Departure From Mathematics
by Sami Atif

This speech was originally delivered to Dr. Atif's colleagues prior to his departure from Phillips Exeter Academy

An axiom: life is a well-defined inequality.

And at this nation's inflection point, our experiences remain differentiable.

Black life is not isomorphic with any other because the structures are non-invertible. There exist no mappings to walk in my shoes, and I uphold the same for you.

Here, whiteness circumscribes us all; it is formed by the triangular forces of race, class, and the church.

And the purity of that math applies a Comparison Test at every point.

Freedom is asymptotic, never quite attainable, but the suggested end behavior.

And while racist ideas belong to subsets of all our thinking, black inferiority prevails, it has been legalized and governs motion. Today, the powerfully subtle algorithmic patterns allow racist ideas to operate, even when no one claims to be a racist.

These are the initial conditions; America is genera-tionally recursive.

The conditional - if we say black life matters, then to argue all life is unsound. At least present the contrapositive.

Silence and any counter-revolutionary narrative is not an argument of the mind. The mind will appreciate that modern science has disproved the biology of race, also in people's minds, too many suggest racism is nonexistent.

Consider the heart, a complex plane of imagination and realism. The eyes see the ears hears, and the feet travel, will you lift a hand?

Here's a kernel, have you considered the cross-sections of your classes? Are they homogenous?

If you haven't taken the time to stratify the population you serve, then your analysis has no significance, be it statistical, anecdotal or otherwise.

Not to be hyperbolic, but in your next encounter with a Black student, consider them to be a telescoping sum of experiences. You are the initial, and you may be the final, so you set the trajectory.

Without loss of generality, my one-sided limit holds. If it is true for Black students, then it is true for all

students. QED.

Teaching math and justice are not mutually exclusive. In the event of their union, the expected value yields a strictly increasing return.

Indeed placed tail-to-tail the complement is clear.

If a just society isn't the root of this teaching equation, our problems will remain periodic - cusp and troughs.

Some of us have had no local maximum, so MAGA is for a prime few. You must appreciate this unique regression line and how mathematicians have compounded the census (senses).

Mismeasurement of intelligence is a common denominator of oppression and forms the axis of subhuman conditions.

Math in all its value parameterizes inferiority and supremacy, and for Black individuals, the projection has been anything but orthogonal – right or just.

This department is a compact set; we converge on our discipline. But certainly not convex. For if you tried to connect with me, we've discussed how incongruent our experiences are with the masses.

And that's not a diss, nor do I suggest we all should fit. I don't agree with uniformity.

I'm an outlier, and nothing I've said was unwarranted, instead entirely founded. So as removable discontinuities go, I'm sure you'll function well.

Goodbye,
Sami

Sami Atif *is the former Dean of Multicultural Affairs at Phillips Exeter Academy in Exeter, New Hampshire as well as a former member of the Mathematics Faculty at Exeter. He can be reached at* `satif@exeter.edu`. □

MSRI
Mathematical Sciences Research Institute
BERKELEY, CALIFORNIA · MSRI.ORG

Call for Applications
2021-22 RESEARCH PROGRAMS

MSRI invites applications for membership in its 2021-22 scientific research programs.

FALL 2021

- Universality and Integrability in Random Matrix Theory and Interacting Particle Systems

SPRING 2022

- The Analysis and Geometry of Random Spaces
- Complex Dynamics: From Special Families to Natural Generalizations in One and Several Variables

msri.org/programs

Apply online beginning August 1, 2020

Research Professorships Deadline: 10/1/20

Research Memberships Deadline: 12/1/20

Postdoctoral Fellowships Deadline: 12/1/20

MSRI is committed to the principles of equal opportunity and affirmative action. Students, recent Ph.D.s, women, and minorities are particularly encouraged to apply.

Director Search 2022
APPLICATIONS NOW OPEN

The Mathematical Sciences Research Institute (MSRI) in Berkeley, California invites applications for the position of Director. **This appointment is for a five-year term beginning July 1, 2022, with the possibility of renewal.**

MSRI is one of the world's preeminent centers for research in the mathematical sciences and has been advancing knowledge through mathematical research since 1982. For full position details, visit:

msri.org/directorsearch

MSRI is an equal opportunity employer and proudly values inclusivity. Candidates of all backgrounds are encouraged to apply.

Call for Applications
AFRICAN DIASPORA JOINT MATHEMATICS 2021 WORKSHOP

June 21 - July 2, 2021: The ADJOINT workshop at MSRI is designed to provide opportunities for in-person collaboration to U.S. mathematical and statistical scientists, especially those from the African Diaspora, who will work in small groups with research leaders. Applicants must be a U.S. citizen or permanent resident, possess a Ph.D. in the mathematical or statistical sciences, and be employed at a U.S. institution.

Accepted participants will receive support for one round-trip travel to Berkeley, lodging and meal expenses, as well as opportunity for future conference travel. **Apply online by 12/15/20 at**:

msri.org/adjoint

MSRI has been supported from its origins by the National Science Foundation, now joined by the National Security Agency, over 100 Academic Sponsor Institutions, by a range of private foundations, and by generous and farsighted individuals.

ADJOINT 2021 receives additional support from the Alfred P. Sloan Foundation.

MSRI
Mathematical Sciences Research Institute

NSA — NATIONAL SECURITY AGENCY · UNITED STATES OF AMERICA

Alfred P. Sloan FOUNDATION

Job Openings

University of Richmond-Mathematics: Assistant Professor Data Science & Statistics

The University of Richmond Department of Mathematics and Computer Science invites applications for a full-time tenure-track position in data science and statistics at the rank of assistant professor, to begin in the 2021-22 academic year. Candidates from all subfields of data science and statistics will be considered. We are particularly interested in applicants who are able to make connections across a liberal arts curriculum. A Ph.D. in statistics, data science, computer science, information science, mathematics, or a related field is required and must be completed by the start date. The University of Richmond is committed to developing a diverse workforce and student body, and to modeling an inclusive campus community which values the expression of difference in ways that promote excellence in teaching, learning, personal development, and institutional success. Applicants should click "Apply Now" at this link:
`https://richmond.csod.com/ats/careersite/JobDetails.aspx?site=1&id=2059`
and submit a curriculum vitae, a cover letter, a statement describing their teaching experience and interests, and a statement describing their research agenda.

Applied BioMath Multiple Positions Available – Applied Mathematics, Biology, & Engineering Concord, MA or Pleasanton, CA

At Applied BioMath, our passion for science and impacting patients' lives drives our desire to revolutionize drug invention. We are innovators, we love to learn, and we take pride in working together to bring systems modeling to drug development. We currently have multiple positions available to grow our team. Our company is serious about hiring women and underrepresented racial and ethnic minority researchers. To learn more and apply, visit `https://bit.ly/34fD6xx`.

Berea College - Department of Mathematics

The Department of Mathematics at Berea College announces a tenure-track position in Mathematics at the rank of Assistant Professor to begin August 2021. The position requires a Ph.D. in Mathematics or Applied Mathematics. Qualified candidates must demonstrate a commitment to excellence in undergraduate education in a diverse and inclusive environment as well as peer-reviewed scholarship. The position is open to all areas of scholarly interest, but special consideration will be given to candidates whose areas of interest include informatics or computational mathematics and may engage

undergraduates in genuine research activities. Successful candidates will, through their teaching, scholarship or service, demonstrate a commitment to building a diverse community. For more information and to apply go to: `https://tinyurl.com/y6qum79c`.

Dartmouth College - Department of Mathematics - Junior TT

The Department of Mathematics at Dartmouth College welcomes applications for a junior tenure-track opening with initial appointment as early as the 2021-2022 academic year. Exceptional cases can merit appointment at higher rank. The successful applicant will have a research profile with a concentration in applied or computational mathematics. Current research areas in applied mathematics include complex systems, computational social sciences, network analysis, statistical learning, mathematical biology, stochastic processes, uncertainty quantification, partial differential equations, and signal and image processing.

Applicants should apply online at www.mathjobs.org Position ID: APAM #16169. Applicants received by December 15, 2020 will receive first consideration. For more information about this position, please visit our website:
`https://www.math.dartmouth.edu/activities/recruiting/`.

Dartmouth is highly committed to fostering a diverse and inclusive population of students, faculty, and staff. We are especially interested in applicants who are able to work effectively with students, faculty, and staff from all backgrounds, including but not limited to racial and ethnic minorities, women, individuals who identify with LGBTQ+ communities, individuals with disabilities, individuals from lower income backgrounds, and/or first generation college graduates, and who have a demonstrated ability to contribute to Dartmouth's undergraduate diversity initiatives in STEM research, such as the Women in Science Program, E. E. Just STEM Scholars Program, and Academic Summer Undergraduate Research Experience (ASURE). Applicants should state in their cover letter how their teaching, research, service, and/or life experiences prepare them to advance Dartmouth's commitments to diversity, equity, and inclusion.

Dartmouth College - Department of Mathematics - PostDoc

The Dartmouth College Instructorship in Applied and Computational Mathematics is a postdoctoral two- to three-year appointment intended for promising Ph.D. graduates with strong interests in both research related to applied and computational mathematics and teaching. An Instructor should have a research interest in these areas in common with some other member of the Department. Current related research areas are in numerical methods, applied mathematics, complex systems, stochastic processes, network

theory, statistical learning, and mathematical biology. Other areas of research in the Department include combinatorics, geometry, logic, noncommutative geometry, number theory, operator algebras, probability, set theory and topology.

Applicants should apply online at `www.mathjobs.org` Position ID: IACM #16173. Applicants received by February 1, 2021 will receive first consideration. For more information about this position, please visit our website:
`https://www.math.dartmouth.edu/activities/recruiting/`.

Dartmouth is highly committed to fostering a diverse and inclusive population of students, faculty, and staff. We are especially interested in applicants who are able to work effectively with students, faculty, and staff from all backgrounds, including but not limited to racial and ethnic minorities, women, individuals who identify with LGBTQ+ communities, individuals with disabilities, individuals from lower income backgrounds, and/or first generation college graduates, and who have a demonstrated ability to contribute to Dartmouth's undergraduate diversity initiatives in STEM research, such as the Women in Science Program, E. E. Just STEM Scholars Program, and Academic Summer Undergraduate Research Experience (ASURE). Applicants should state in their cover letter how their teaching, research, service, and/or life experiences prepare them to advance Dartmouth's commitments to diversity, equity, and inclusion.

Dartmouth College - Department of Mathematics - John Wesley Young Instructorship

The Dartmouth College John Wesley Young Instructorship in Mathematics is a post-doctoral two to three-year appointment intended for promising Ph.D. graduates with strong interests in both research related to applied and computational mathematics and teaching. An Instructor should have a research interest in these areas in common with some other member of the Department. Current related research areas are in numerical methods, applied mathematics, complex systems, stochastic processes, network theory, statistical learning, and mathematical biology. Other areas of research in the Department include combinatorics, geometry, logic, non-commutative geometry, number theory, operator algebras, probability, set theory and topology.

Applicants should apply online at `www.mathjobs.org` Position ID: JWY #16174. Applicants received by February 1, 2021 will receive first consideration. For more information about this position, please visit our website:
`https://www.math.dartmouth.edu/activities/recruiting/`.

Dartmouth is highly committed to fostering a diverse and inclusive population of students, faculty, and staff. We are especially interested in applicants who are able to work effectively with students, faculty, and staff from all backgrounds, including but not

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Events of Interest to NAM Members

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

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https://www.nam-math.org/upcoming-activities.html
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The Graduate Online Combinatorics Colloquium (GOCC) is a student-run weekly online combinatorics seminar intended for graduate students of all levels and areas of combinatorics. Our goal is to support early-career mathematicians and provide a low-pressure seminar consisting of both research and expository talks. For information, see the following link. If you'd like to join the listhost and/or volunteer to give a talk, please email gocccombinatiorics@gmail.com.

Celebrate #BlackinMath Week on twitter! started as a grassroots campaign on Twitter and co-organized with NAM, this celebration is inspired by the multiple Black in STEM weeks taking over Twitter this summer. This is an online event hosted on Twitter, happening November 10-17th. To join the organizing team or sponsor events, please fill out the form at `https://forms.gle/nWZ5mRQ4bUvDh4rw6`. Also, follow the twitter account @BlackinMath for updates and announcements.

NAM Undergraduate MATHFest 2020 will be occurring VIRTUALLY this year. The event will take place from Friday October 9th through Saturday October 10th, 2020. Under this new format, we will continue to offer opportunities for student poster and oral presentations, networking, and Problem Time with Dr. Cooper. More program updates and registration information for NAM Undergraduate MATHFest 2020 will be made available at the following link: `www.nam-math.org/mathfest.html`

MAA Project NExT

NEW EXPERIENCES IN TEACHING

Launch the NExT stage of your career

The first round of applications for the 2021 cohort of MAA Project NExT has a deadline of **October 15, 2020**. 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, 2020. Those accepting positions during this academic year (to start Fall 2021) may use the second application deadline of **April 15, 2021**.

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. Sessions will be held virtually if necessary.

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 deadline: October 15, 2020
projectnext.maa.org • projectnext@maa.org

NAM Board of Directors

Fall 2020