



Newsletter

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Celebrating NAM Undergraduate MATHFest Virtually



Attendees of the first ever virtual NAM Undergraduate MATHFest pose for a group shot over Zoom

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.

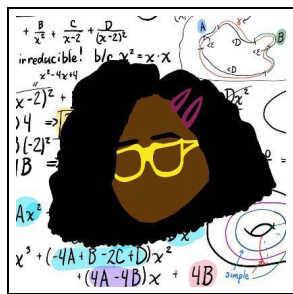
NAM's National Office, subscriptions and membership: National Association of Mathematicians, 2870 Peachtree Rd NW #915-8152, Atlanta, GA 30305; e-mail: info@nam-math.org.

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



“Awareness is like the sun. When it shines on things they are transformed.”

– Thích Nhất Hạnh.

Hello friends,

This year I had the great pleasure of being the J. Earnest Wilkins Jr. Lecturer at the 2020 NAM Undergraduate MATHFest, held virtually October 9-10, 2020. I am almost embarrassed to say that this was my first NAM Undergraduate MATHFest! After experiencing the 2020 MATHFest, I realized that I was truly missing out. Even in the virtual format, the welcoming community vibes shone through. I listened to presentations from students from all over the country on just about every topic in mathematics. I am so proud to be on the board of the organization that put on such a nurturing positive con-

ference. I strongly encouraged my undergraduate research students to attend this meeting and they all confirmed what I felt – that after attending this meeting, we had become a part of a supportive and resource-rich community of scientists. If you work with undergraduate students at all, highly encourage you to attend this meeting. You will become a convert, like me.

This past November I was honored to be one of the organizers of the first annual, #BlackinMath Week. From November 8-14, 2020 Black Mathematicians took to their devices to post their personal stories on being a mathematician and reflected on how Black Mathematicians are portrayed in the media. A full list of the hashtags used throughout the week are contained in the article on page 26 and could be used to search Twitter and review the posts from #BlackinMath Week.

*Wishing you a happy holiday season,
 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

<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

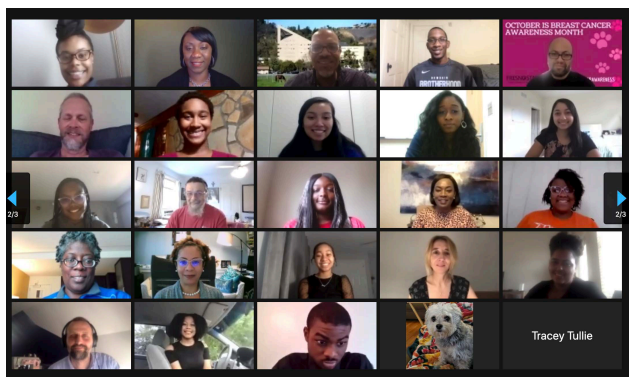
Advertisements should be submitted electronically to the editor at editor@nam-math.org.

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.

2020 NAM Undergraduate MATHFest Celebration

by Naomi Cameron

NAM's Undergraduate MATHFest XXX was held on October 9–10, 2020. Due to the global pandemic, the meeting was held virtually on the Zoom platform. NAM MATHFest XXX was co-organized by the members of NAM's Program Committee: Dr. Naomi Cameron, Vice President and Program Committee Chair (Spelman College), Dr. Shea Burns, Secretary (North Carolina A&T University), and Dr. Brittany Mosby, Region C Member (Tennessee Higher Education Commission).



Program and Participants

NAM holds several meetings every year, including its annual meeting at Joint Mathematics Meetings in the Winter; the Regional Faculty Conference on Research and Teaching Excellence (FCRTE) in the Spring; the Blackwell Lecture at MAA MathFest in the Late Summer; and the NAM Undergraduate MATHFest in the Fall. NAM's Undergraduate MATHFest is usually a three-day meeting, typically Friday through Sunday in the Fall, which ro-

tates 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.

Undergraduate MATHFest consists of five components: (1) Student Talks, (2) Poster Presentations, (3) a Graduate Fair, (4) Problem Time with Dr. Cooper, and (5) the J. Ernest Wilkins Lecture. At the virtual meeting this year, we had over 90 registered participants, including undergraduate students, graduate students, faculty, administrators and professionals. Fifteen undergraduate students gave oral presentations, and nine students presented virtual posters. Nearly 50 schools were represented at the virtual meeting.

Presentations and Talks

There were eight talks given by undergraduate students. Each talk lasted about 30 minutes each.

- Aquilah Daughtery (Xavier University), Imani Maliti (Clark Atlanta University), Shalini Ramachandra (American University), and Benjamin Shapiro (American University) spoke on *The Social Determinants of Health Matter in a Pandemic: Predictors of COVID-19 Case and Death Rates in New York City*.
- Jazmin Jones (Clark Atlanta University) spoke



on *R Simulations of A Unified Mixed- Effects Model*.

- Don Edwards (Morehouse College), Imhotep Hogan (Florida A&M University) and Kobe Lawson-Chavanu (Morehouse College) spoke on *Counting Spiders on Trees*.
- Fatima Fall (Howard University), Julian Francis (Howard University) and Trinity Lee (King University) spoke on *Production Matrices for Double Riordan Arrays*.
- Miyanda Wynn (Clark Atlanta University) spoke on *Stay in School: Student Athlete Edition*.
- Willie Reynolds (Savannah State University) spoke on *Developing Algorithms for Computing Derivatives with Determinants and see Applications (Area, Volume)*.
- Woomy Michel (Clark Atlanta University) spoke on *The Block is Hot: An Analysis of Fatal Police Shootings in 2015*.
- Rebecca Lopez (Marist College) spoke on *Computation of Monodromy Groups for Toroidal Belyi Maps*.

There was a friendly competition for the most outstanding oral presentation. Undergraduates Woomy Michel (Clark Atlanta University) and Rebecca Lopez (Marist College) each received book prizes for Outstanding Oral Presentations. Judges who assisted with these prizes were faculty members Rhonda Fitzgerald (Norfolk State University), Dwight Williams (Iowa State University), Sylvia Bozeman (Spelman College) and Mohammed Tesemma (Spelman College).

Students also had the opportunity to present “virtual” posters describing their research. Student posters, along with abstracts, were displayed as image files on a private conference website made available to all participants, and the Poster Session

Q&A took place Saturday afternoon from 2:15 PM - 3:00 PM. There were six posters presented in this session:

- Samuel Heard (University of Oklahoma), Fabian Ramirez (Sonoma State University) and Vanessa Sun (Macaulay Honors at Hunter College, City University of New York) presented on *Monodromy Groups of Modular Curves*.
- Elisa Rodriguez (Ursinus College) and William Sablan (University of Guam) presented on *To and From 2-Generated Groups and Origamis*.
- Meagan Hodge (Spelman College) presented on *Application of Grobner Basis to Implicitization Problems*.
- Myka Terry (Morgan State University) presented on *Rainbow Cells: Tracking Trends in Cell Division Using Motzkin Paths*.
- Ariana Richardson (Spelman College) presented on *Application of Gröbner Basis to Graph Coloring Problems*.
- Doria Lee (Central State University) presented on *A Topological Space with its Properties*.



There was also a friendly competition for the most outstanding poster presentation. Undergraduates Myka Terry (Morgan State University), Elisa Rodriguez (Ursinus College) and William Sablan (University of Guam) each received book prizes from the for Outstanding Poster Presentations. Judges who assisted with these prizes

were Tuwaner Lamar (Morehouse College), Robin Wilson (Cal Poly Pomona), and Lynnette Robinson (Lockheed Martin).



Dr. Omayra Ortega

The 2020 J. Ernest Wilkins Lecture was given on Friday, October 9, 2020 by Dr. Omayra Ortega (Sonoma State University). Dr. Ortega's talk was titled *Exceptional Statistics: From J. Ernest Wilkins to Coronavirus Epidemiology*.

Other Activities

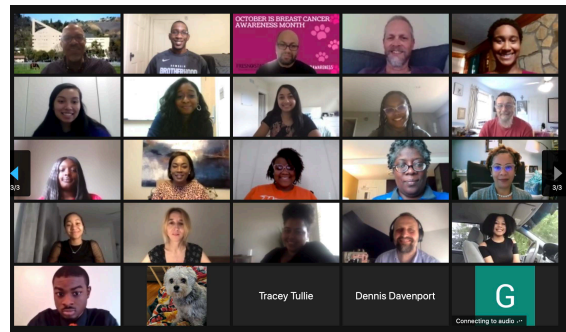
There were also a few panel activities:

- *Graduate Programs and Student Opportunities Fair* featured exhibitors from various undergraduate and graduate programs and career pathways: David Cruz-Uribe (The University of Alabama, Department of Mathematics), Tim McEl-downey (West Virginia University, Department of Mathematics), Tracey A. Tullie (Wells Fargo Bank), Miklos Bona (University of Florida, Department of Mathematics), Ryan Kinser (University of Iowa, Department of Mathematics), Asher Auel (Dartmouth College, Department of Mathematics), Susana Serna (RIPS Program, Institute for Pure and Applied Mathematics), Margarita Roman and Dr. Fred Wilhelm (The University of California, Riverside, Graduate Programs in Mathematics), Dennis Davenport (Howard University, Department of Mathematics), Stephen Robinson (Wake Forest University, Department of Mathematics and Statistics)
- *Graduate School Panel, Part I* featured Dr. Dennis Davenport (Associate Chair and Director of Graduate Studies, Department of Mathematics, Howard University) and Dr. Shree Taylor (Director of Graduate Studies, Department of Mathematics and Statistics, Georgetown University)

providing their advice about how to prepare for and succeed in graduate school.

- *Graduate School Panel, Part II* featured graduate students Ashley Alfred (University of Texas Arlington), Berlinda Batista (University of Texas Arlington) and Christian McRoberts (Iowa State University) sharing their advice and experiences with graduate school from the student's perspective. This panel was open only to students.

Throughout the conference, students were presented with challenge problems from Dr. Duane Cooper (Morehouse College) in an annual tradition known as *Problem Time with Dr. Cooper*. Students with correct solutions were offered prizes selected by Dr. Cooper. Undergraduates Cole Durham (University of Rochester) and Samuel Heard (University of Oklahoma) were each recognized for being the first to solve one of the challenge problems, while students Troy Greene (Bowdoin College), Meagan Hodge (Spelman College), Kristin Walters (Pomona College), and Imhotep Hogan (Florida A&M University) all received honorable mentions and a bonus prize for their unique contributions to the challenge problems.



Naiomi Cameron is a Professor of Mathematics at Spelman College and is the Vice President of NAM. Dr. Naiomi Cameron can be reached at vice-president@nam-math.org. □



NAM Programs at the 2021 Joint Mathematical Meetings

All events are in Mountain Time.



Haynes-Granville-Brown Session, Thursday (1/7) 1:00 PM - 5:00 PM

Cox-Talbot Address, Thursday (1/7) 5:00 PM - 5:50 PM

Dr. Talitha Washington, Atlanta University Center Consortium

Title: Leveraging Data Science at HBCUs to Advance Innovation

With the abundance of data, new skills will be needed to prepare students for jobs that do not yet exist. As we develop new data science tools and platforms, innovations in research are needed to advance the field of data science. Historically Black Colleges and Universities (HBCUs) have the unique opportunity to develop novel ways to address ethics and bias issues associated with data science research. As mathematics is a cornerstone of data science, this presentation will share recent advancements in data science at HBCUs and how policy encourages advancement in the data science innovation ecosystem.

AMS-NAM Joint Special Session on Celebrating the Mathematical Legacy of Dr. James A. Donaldson, Friday (1/8) 8:00am-10:50am and 1:00pm-5:50pm.

NAM Business Meeting, Saturday (1/9) 10:00 AM - 10:50 AM

Claytor-Woodard Lecture, Saturday (1/9) 1:00 PM - 1:50 PM

Dr. Chelsea Walton, Rice University

Title: An Invitation to Noncommutative Algebra

This talk will delve into the wonderful world of Noncommutative Algebra, primarily discussing the roles of Symmetry, Representations, and Deformations in this area of mathematics. The talk will contain a mix of classical results, the speaker's research contributions, as well as open questions and entertaining anecdotes in this very active area of research. It will be based on the speaker's survey article of the same title, published in the 2019 EDGE program volume for the AWM Springer series.

Chelsea Walton was born and raised in Detroit, Michigan, attended Detroit Public Schools for her secondary and most of her elementary education. She then enrolled at Michigan State University, graduating in 2005 with a B.S. with High Honors in Mathematics. She completed her doctoral work in 2011 at the University of Michigan with the guidance of her advisors Toby Stafford and Karen Smith. She then was an NSF postdoc at the University of Washington in Seattle in 2011-2012, a postdoc at MSRI in Spring 2013, and was a Moore Instructor at MIT in 2012-2015. She has held positions at Temple University and the University of Illinois at Urbana-Champaign, and is currently an Associate Professor at Rice University.

Torina Lewis to Join American Mathematical Society

by Scott Turner

This is a reprint of the AMS Media Release published on September 10, 2020 on their website https://www.ams.org/news?news_id=6376

Dr. Torina Lewis has been named the new Associate Executive Director for Meetings and Professional Services at the American Mathematical Society (AMS).

Lewis will oversee AMS meetings, programs, and membership. She will advance opportunities designed to support and engage AMS members and the entire mathematical community. Among these activities are the Joint Mathematics Meetings, Annual Survey, Mathjobs.org, Graduate Student Chapters, Prizes and Awards, Mathematics Research Communities and the AMS Fellows program. She will also oversee various educational initiatives, travel support offerings and outreach activities.

“Our programs and services are fundamental to how we advance research and connect with mathematicians around the world,” said AMS Executive Director Catherine Roberts. “Given the indefinite uncertainty that this time of pandemic presents, we’re thrilled that Dr. Lewis will bring new insights and tremendous energy to our work to support the mathematical community.”

Presently an Associate Professor and the Chairperson in the Department of Mathematical Sciences at Clark Atlanta

University (CAU), Lewis will join the AMS on September 19. She will succeed T. Christine Stevens, who will become Special Projects Officer.



Photo by CSquared

Lewis earned a PhD in Mathematics from the University of Mississippi and a Master of Science in Mathematics from Southern University and A&M College. She completed her undergraduate studies at Southern University at New Orleans. Before joining the faculty at CAU, Lewis was a Visiting Professor at the University of Mississippi. Previously, she was an Assistant Professor at Bethune-Cookman University.

“I am incredibly excited to join the AMS, and I am hopeful regarding the continued impact that we can have in the



mathematical community,” Lewis said. At the AMS, Lewis will also work to increase the inclusion of mathematicians from underrepresented groups to help diversify membership.

Lewis’ mathematical research focuses on construction, geometrical modeling, and infusion of periodic polygon functions. Her most recent funding includes a \$211,000 award from the National Science Foundation.

In addition, Lewis conducts educational research on the implementation of adaptive learning courseware to enhance student learning outcomes in mathematics. Selected in 2017 as a Digital Learning Champion at CAU, Lewis is a principal investigator, or CO-PI, on interdisciplinary projects in educational research, funded by the NSF for about \$1.9 million.

Using data analytics, Lewis leads her graduate students in applied research on airport efficiency. This work is supported by two grants from the Department of Homeland Security. Lewis also heads a collaborative effort that includes a faculty member from Morehouse and Spelman Colleges to develop a Data Science and Analytics minor pathway, and provides several opportunities annually for undergraduates to participate in the work of her research group. At CAU, Lewis serves as campus coordinator of the Louis Stokes Alliance for Minority Participation (LSAMP) program

and in executive positions for the honor societies, Pi Mu Epsilon and Phi Kappa Phi.

In 2017, Lewis received the Vulcan Teaching Excellence Award, presented annually to a faculty member in Georgia, “who demonstrates the highest levels of leadership and scholarship inside and outside the classroom.” CAU also honored Lewis in 2017 with the Aldridge-McMillan Award for Excellence in Teaching.

While serving as a professor at CAU, Lewis said she “learned genuine compassion and a broad understanding of the purpose of Historically Black Colleges and Universities as educators of the Black student. Through established relationships with students, I am reminded of the many lessons that I learned, which helped me grow into a more-careful thinker.”

In 2020, Lewis was named a Mathematically Gifted and Black Honoree by the Network of Minorities in Mathematical Sciences.

“Dr. Lewis will provide the AMS with not only leadership, but with vision and a fresh outlook,” said Roberts. “We are thrilled to welcome Dr. Lewis, who will bring her many talents to help articulate and realize our Society’s mission and goals.”

Scott Turner is a writer at the American Mathematical Society Department of Communications. He can be reached at sxt@ams.org. □



NAM HISTORICAL AND ARCHIVAL COMMITTEE IS ACCEPTING ITEMS FOR NAM'S ARCHIVES

NAM HISTORICAL AND ARCHIVAL COMMITTEE is charged to establish and maintain a Perpetual Committee of NAM's Members to collect, organize and protect rare and special collections of NAM's records, manuscripts, books, artifacts, photos, etc., those of NAM's members, as well as those of other African American mathematicians and mathematics educators who have made special or significant contributions to the mathematical sciences community at various levels. The archival records being collected will be made available, free worldwide to researchers, students and others who wish to have access to NAM's unique, primary historical and cultural resources, as well as, those from others in the African American community in the mathematical sciences that are archived with NAM. In the future, **NAM's HISTORICAL AND ARCHIVAL COLLECTIONS** will be stored in the Robert W. Woodruff Library and Research Center, located in the Atlanta University Center in Atlanta, GA.

If you have such items or know of persons who have such items who might wish to donate them to **NAM's HISTORICAL AND ARCHIVAL COLLECTIONS**, please contact:

Johnny L. Houston, Committee Chair,
jlhouston602@gmail.com ;
Voice: 252-267-2222.

The Committee has collected such items as:

1. All of NAM's past Proceedings
2. Most of NAM's Newsletters since 2000
3. We need several of NAM's Newsletters before 2000
4. We have some of NAM's MATHFest Programs and original photos
5. An Autographed copy (by Dr. Virginia Newell) of *Black Mathematicians and Their Works*
6. A collection of documents and photos from Dr. Clarence Stephens
7. An Invitation to get a collection of Dr, Abdullah A. Shabazz documents
8. Several Others Collections of documents from others

WE NEED MORE!
PLEASE CONTACT US TO COLLECT YOUR DONATION(S)!



Dr. Suzanne L. Weekes Named SIAM Executive Director

by *SIAM News*

This is a reprint of the SIAM News article published on September 10, 2020 on their website <https://sinews.siam.org/Details-Page/dr-suzanne-l-weekes-named-siam-executive-director>

Society for Industrial and Applied Mathematics (SIAM) has announced the appointment of Dr. Suzanne L. Weekes, Associate Dean of Undergraduate Studies, ad interim, and Professor of Mathematical Sciences at Worcester Polytechnic Institute (WPI), to the position of Executive Director. In her new role, Weekes will continue to build SIAM's reputation as the leading professional society for applied mathematicians and computational scientists.

With a B.S. in Mathematics from Indiana University, a Ph.D. in Mathematics and Scientific Computing from the University of Michigan and having done her post-doctoral work at Texas A&M University, Weekes serves on SIAM's Council and is a member of the Science Policy committees of both the American Mathematical Society (AMS) and SIAM. As part of her science policy work, Weekes recently chaired the SIAM Task Force on Future Research Directions for NSF in the Era of COVID-19, the goal of which was to make recommendations to NSF on future applied mathematics and computational science research directions given the COVID-19 pandemic.

“After nearly six months of interviewing

many extraordinary and passionate candidates, the search committee is proud to appoint Suzanne as SIAM's third Executive Director,” said Margot Gerritsen, Chair of the SIAM Board of Trustees. “In Suzanne's words, ‘SIAM is the voice of applied mathematics’ and we know that under her leadership, that voice will sound clear and true.”



Weekes is also an At-Large Member of the Executive Committee of the Association for Women in Mathematics (AWM) and is a member of the National Association of Mathematicians (NAM). She is the recipient of a 2020 Haimo Award for Distinguished College or University Teaching of Mathematics from the Mathematical Association of America (MAA). She also received the 2019 Humphreys Award for Mentoring from AWM. Weekes is a past Chair of the SIAM Education Committee

A Mathematician with A Pleasant Personality and Profundity: A Biographical Sketch of Dr. Roderick Holmes

by Willie Taylor

Texas Southern University (TSU) is fortunate to have a mathematician who has a pleasant personality and a deep understanding of mathematics, Dr. Roderick Holmes, a graduate of TSU has prepared himself and gives back to the institution that helped shape his professional aspirations. Dr. Holmes shares an interesting perspective on higher education, using analytical thinking to advocate for excellence in curriculum and develop instructional strategies to engage and inspire students to achieve excellence in mathematics.



Dr. Holmes, Photo credit: Earlie Hudnall, Jr.

Dr. Holmes currently serves as the Interim Department Head of the TSU Mathematics Department. Under his leadership, they successfully negotiated the reinstatement of the graduate degree program in mathematics, a significant achievement to guarantee minority students and others access to instruction and a welcoming climate at an HBCU in Texas.

Dr. Holmes benefited from the counsel and mentorship of, Professor W. E. Tay-

lor, a senior mathematician, and continues his legacy by serving as a mentor to many young undergraduates, untenured mathematics faculty, adjuncts, and others in his circle of contact. He has published several research articles in mathematics. He is a regular participant and contributor to organizations such as the American Mathematical Society, the Mathematical Association of America, the National Association of Mathematicians and The National Alliance for Doctoral Studies in the Mathematical Sciences.

He is creative in adapting new modalities to provide excellent and inspiring instruction to students during the pandemic that impacted higher education in the United States. Dr. Holmes's goal is to motivate more students to major in mathematics and mathematics-related fields. To further this goal, he is currently in negotiation with neighboring institutions to develop concentrations and certificate programs in Data Science and Actuarial Science. Such partnerships enhance the image of both the mathematics department and the university.

Willie Taylor is a Professor of Mathematics at Texas Southern University. Dr. Willie Taylor can be reached at willie.taylor@tsu.edu. □

MSRI SUMMER GRADUATE SCHOOLS 2021

In the summer of 2021, MSRI will offer eight summer schools for graduate students from MSRI Academic Sponsors and other U.S. institutions. These schools provide students with the opportunity to learn from the top researchers in their fields, both in Berkeley and at partner institutions around the world. We appreciate your help in identifying students who can benefit from attending these schools.

ELIGIBILITY

Graduate students from MSRI Academic Sponsoring Institutions or from the Department of Mathematics at U.S. universities are eligible for nomination.

HOW TO APPLY

Graduate students must be nominated by their Director of Graduate Studies (instructions on website).

NOMINATION PERIOD

December 1, 2020 - February 1, 2021

ADMISSION

Admission is on a first-come, first-served basis up to the limits of the capacity of the school.

SUPPORT

MSRI covers local expenses as well as partial travel expenses for accepted students.

MORE INFORMATION

msri.org/sgs

MSRI - BERKELEY, CALIFORNIA

Sparsity of Algebraic Points

JUNE 7 - 18, 2021

Organizers: Philipp Habegger (Universität Basel), Hector Pasten* (Pontificia Universidad Católica de Chile)

Mathematics of Big Data: Sketching and (Multi-) Linear Algebra

JUNE 21 - JULY 2, 2021

Organizers: Kenneth Clarkson* (IBM Research Division), Lior Horesh (IBM Thomas J. Watson Research Center)

Gauge Theory in Geometry and Topology

JULY 5 - 16, 2021

Organizers: Lynn Heller (Universität Hannover), Francesco Lin (Columbia University), Laura Starkston* (University of California, Davis), Boyu Zhang (Princeton University)

Random Conformal Geometry

JULY 19 - 30, 2021

Organizers: Mario Bonk (University of California, Los Angeles), Steffen Rohde (University of Washington), Fredrik Viklund* (Royal Institute of Technology)

OTHER LOCATIONS

2021 CRM-PIMS Summer School in Probability

MAY 24 - JUNE 18, 2021 · MONTRÉAL, CANADA

Organizers: Louigi Addario-Berry* (McGill University), Omer Angel (University of British Columbia), Alexander Fribergh (University of Montreal), Mathav Murugan (University of British Columbia), Edwin Perkins (University of British Columbia)

Foundations and Frontiers of Probabilistic Proofs

JUNE 28 - JULY 9, 2021 · ZÜRICH, SWITZERLAND

Organizers: Alessandro Chiesa (University of California, Berkeley), Tom Gur (University of Warwick)

Metric Geometry and Geometric Analysis

JULY 5 - 16, 2021 · OXFORD, UNITED KINGDOM

Organizers: Cornelia Drutu* (University of Oxford), Panos Papazoglou (University of Oxford)

Recent Topics in Well Posedness

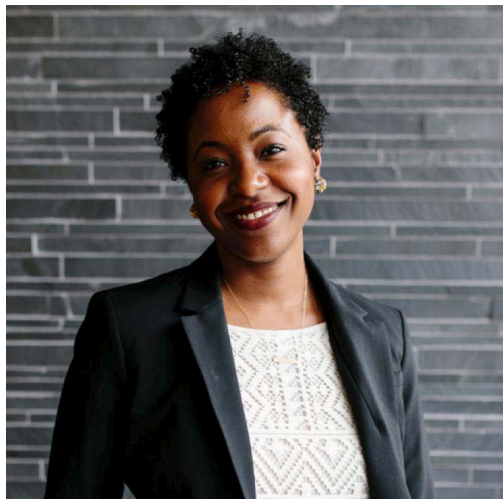
JULY 19 - 30, 2021 · TAIPEI, TAIWAN

Organizers: Jungkai Chen (National Taiwan University), Yoshikazu Giga (University of Tokyo), Maria Schonbek (University of California, Santa Cruz), Tsuyoshi Yoneda (University of Tokyo)

*denotes lead organizer

Emille D. Lawrence Wins AWM Service Award

AWM Newsletter



Dr. Emille D. Lawrence

This is a reprint of the AWM Media Release published in the November–December 2020 AWM Newsletter <https://awm-math.org/wp-content/uploads/2020/10/AWM-News-NovDec-2020-PRINT.pdf>

The Association for Women in Mathematics is pleased to announce that the recipient of the 2021 AWM Service Award is Emille D. Lawrence, Term Associate Professor and Chair, Department of Mathematics and Statistics, University of San Francisco. Lawrence is honored for her service as Chair of the Mentor Network Committee, as Chair of the 50th Anniversary Committee and as Founding Faculty Sponsor of the USF AWM Student Chapter.

The AWM Service Award, established by the AWM Executive Committee in November 2012, recognizes individuals for helping to promote and support women in mathematics through exceptional volun-

tary service to the Association for Women in Mathematics. The award is given annually to a select AWM Volunteer or group of AWM volunteers in recognition of their extensive time and effort devoted to AWM activities.

Citation Emille D. Lawrence is recognized for her service as Chair of the 50th Anniversary Committee and her leadership role as Chair, since 2016, of the Mentor Network Committee and for her mentorship as Founding Faculty Sponsor of the AWM Student Chapter at the University of San Francisco. In all of these roles, Lawrence has worked to increase participation in the AWM by a diverse population of mathematicians at all stages of their careers. The Mentor Network is a well-run, outward-facing program which showcases AWM's commitment to meeting women (and men) where they are. Students at all levels who are interested in mathematics or are pursuing careers in mathematics are matched with mentors based on common interests in careers in academics or industry, math education, balance of career and family, or general mathematical interests. As chair of the Mentor Network Committee, Lawrence liaises with our partner math institutes, creating a pipeline for mentors and mentees. She oversees and works to improve the program and facilitates mentor-mentee relationships as needed.

As chair of the AWM 50th Anniversary Committee, Emille Lawrence has led the planning of activities that will both celebrate AWM's past and develop a vision for its future. These efforts have focused on involving the next generation in mathematics and creating a community where all are welcome and can thrive.

A gifted and successful leader, Lawrence has recently become chair of the mathematics department at the University of San Francisco. She has served as Founding Faculty Sponsor of the AWM Student Chapter at USF since 2017.

Response from Emille D. Lawrence

I am truly honored to be a recipient of an AWM Service Award. I hope that my con-

tributions to the 50th Anniversary Committee and to the Mentor Network have had a positive and measurable impact on women in mathematics and, moreover, the mathematics community as a whole. This work could not have been done without a strong team, so I extend my sincere thanks to the members of each committee. I look forward to continuing my efforts of supporting the AWM mission of promoting women and girls in the mathematical sciences. Thank you once again for this recognition.

The AWM Newsletter is a publication of the Association for Women in Mathematics (AWM). The AWM can be reached at awm@awm-math.org. □



ICERM



Combinatorial Algebraic Geometry

February 1 – May 7, 2021

Organizing Committee:

Anders Buch, Rutgers University

Melody Chan, Brown University

June Huh, IAS at Princeton University

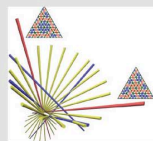
Thomas Lam, University of Michigan

Leonardo Mihalcea, Virginia Polytechnic Institute

Sam Payne, University of Texas at Austin

Lauren Williams, Harvard University

Program Description:



Combinatorial algebraic geometry comprises the parts of algebraic geometry where basic geometric phenomena can be described with combinatorial data, and where combinatorial methods are essential for further progress.

Research in combinatorial algebraic geometry utilizes combinatorial techniques to answer questions about geometry. It also uses geometric methods to provide powerful tools for studying combinatorial objects. Much research in this area relies on mathematical software to explore and enumerate combinatorial structures and compute geometric invariants. Writing the required programs is a considerable part of many research projects. The development of new mathematics software is

therefore prioritized in the program.

This program will bring together experts in both pure and applied parts of mathematics as well mathematical programmers, all working at the confluence of discrete mathematics and algebraic geometry, with the aim of creating an environment conducive to interdisciplinary collaboration.

Affiliated Workshops (all only offered virtually):

Introductory Workshop: Combinatorial Algebraic Geometry (*Feb 1-5, 2021*)

- Sage/Oscar Days for Combinatorial Algebraic Geometry (*Feb 15-19, 2021*)
- Geometry and Combinatorics from Root Systems (*Mar 22-26, 2021*)
- Algebraic Geometry and Polyhedra (*Apr 12-16, 2021*)

When registering, please select the "virtual participant" option in order to receive Zoom credentials.



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>



David H. Blackwell: A Profile of Inspiration and Perseverance

by Aaron Thompson

This is a reprint of the University of Illinois Department of Statistics article published on July 17, 2020 on their website <https://stat.illinois.edu/news/2020-07-17/david-h-blackwell-profile-inspiration-and-perseverance> (2003)



African-American educator who overcame adversity and racism to become a leader in the field of statistics. David Blackwell had a distinguished career while living an extraordinary life. Against the backdrop of the Great Depression, World War II, the Cold War, and the Civil Rights Era, Blackwell's life is one of inspiration. From the very beginning, Blackwell overcame insurmountable odds to become an influential contributor to the world of mathematics and statistics. Blackwell's journey started in Southern Illinois with modest yet noble goals of becoming an elementary school teacher. His remarkable life would culminate with twelve honorary Doctorates and numerous awards, honors, and leadership roles throughout his career.

Blackwell came from humble beginnings to being one of the most influential figures in the field of statistics. Born April 24, 1919 to a homemaker and an Illinois Central Railroad worker in Centralia, IL, David H. Blackwell would become the first African-American to receive a Ph.D. in Mathematics from the University of Illinois Urbana-Champaign, seventh overall in the United States. (Agwu, Smith, & Barry,

Advancing twice to higher-grade levels during elementary school, Blackwell graduated from high school at the age of sixteen. In a time of segregation with mostly whites-only schools or black-only schools, Blackwell went to an integrated mixed school where he was unaware of a lot of the racial discrimination that was plaguing the country at that time. It was in a high school geometry class that Blackwell discovered his passion for mathematics.

"Until a year after I finished calculus, it was the only course I had that made me see that mathematics is really beautiful and full of ideas," – Blackwell, regarding his high school geometry course. (Agwu, Smith, & Barry, 2003)

With goals to become an elementary educator, Blackwell enrolled at the University of Illinois Urbana-Champaign in 1935. Even with a four-year scholarship from the state of Illinois, Blackwell worked as a dishwasher, waiter, and a laboratory cleaner to try to spare his family financial burden for the costs of his education. (Albers,

2008) It was during his junior/senior years that Blackwell decided to pursue a graduate degree as he had now set his sights on teaching in higher education. Blackwell completed his B.A. in Mathematics by 1938 and subsequently completed his M.A. by 1939. In 1941, under the tutelage of Professor Joseph L. Doob of Mathematics, Blackwell completed his dissertation titled “Some Properties of Markov’s Chains”.



David Blackwell, circa 1935

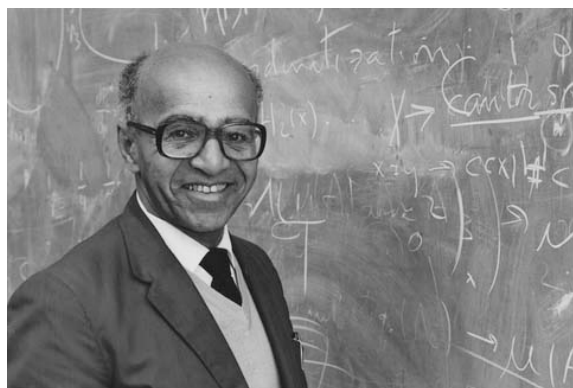
“No, I cannot come, but I have some good students, and Blackwell is the best. But of course he is black. And in spite of the fact that we are in a war that’s advancing the cause of democracy, it may not have spread throughout our own land.”- Joseph Doob, 1942, in response to Jerzy Neyman of the University of California Berkeley attempting to recruit Doob for UC-Berkeley’s Mathematics Department. (Mathematical People: Profiles and Interviews, 1985) (Cattau, 2010)

An illustrious career as an educator, researcher, and statistician would follow Blackwell’s graduation from the University of Illinois, but not without racial discrimination serving as temporary roadblocks

along the way. The guidance of Professor Doob helped Blackwell secure the Rosenwald Fellowship at the Institute of Advanced Study (IAS). At that time, it was customary for IAS members to receive visiting fellow appointments from the nearby Princeton University. However, due to racial discrimination, Princeton objected to Blackwell’s appointment and did not allow him to attend lectures or conduct research at the university. (Hunter, 2010) The president of Princeton even got involved in the controversy as they felt the IAS was abusing the university’s hospitality by admitting a black man. The university later withdrew their objection upon the insistence of the IAS director and his thesis advisor, Joseph Doob to allow Blackwell to maintain his fellow and courtesy title of assistant professor. (Agwu, Smith, & Barry, 2003) (Grimes, William, 2010) (Kehoe, 2015) Blackwell would remain unaware of the internal struggles between Princeton and the IAS for many years. He finished his first year at the IAS making connections that would lead to a lifetime of groundbreaking contributions to the world of statistics.

While working at the IAS, Blackwell worked with John von Neumann, considered the father of modern game theory. Von Neumann had requested a meeting with Blackwell to discuss his college dissertation, but Blackwell wrote off the renowned mathematician’s request. Naively, he did not believe von Neumann was truly interested in mentoring students or hearing about his dissertation.





David H. Blackwell, Photo credit: The Bancroft Library,
UC Berkeley Library

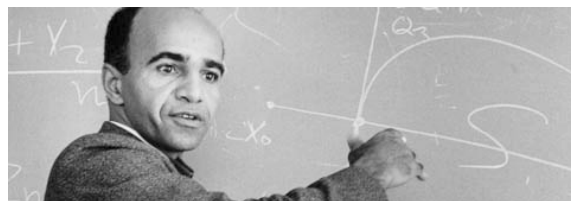
During this time of avoiding a meeting with von Neumann, Blackwell would audit a course taught by world-renowned mathematician, Samuel Wilks. Known for his work in developing the field of mathematical statistics, Wilks would be a founding member of the Institute of Mathematical Statistics (IMS). Eventually, Blackwell would follow through on von Neumann's request for a meeting to sit down and discuss his thesis on Markov Chains.

“He (von Neumann) listened to me talk about this rather obscure subject and in ten minutes he knew more about it than I did,” – Blackwell on von Neumann. (Krantz, 2005)

This interaction with von Neumann would shape a young Blackwell to realize that the elder mathematician's willingness to continue to mentor students, even at an advanced professional stage, is a model behavior to follow. This is something Blackwell emulated throughout his proceeding career as evident with being the dissertation advisor to over 50 students during his educator career.

After leaving the IAS, Blackwell applied for faculty positions across the country, expecting only to get offers from Historically

Black Colleges and Universities. After 105 applications to HBCUs, only 3 offers came in 1942, Blackwell began his educator career at Southern University at Baton Rouge from 1942-43 and followed by a year at Clark College in Atlanta, GA from 1943-44. Blackwell had hoped to get an offer from UC-Berkeley in 1942, but the offer never came. (Cattau, 2010) In 1944, Blackwell secured a position at Howard University in Washington D.C. He remained there for the following 10-years until 1954. Starting his career at Howard University as an Assistant Professor, by 1947 Blackwell would have the position of Professor and Chairman of the Mathematics Department.



David H. Blackwell, Photo credit: The Bancroft Library,
UC Berkeley Library

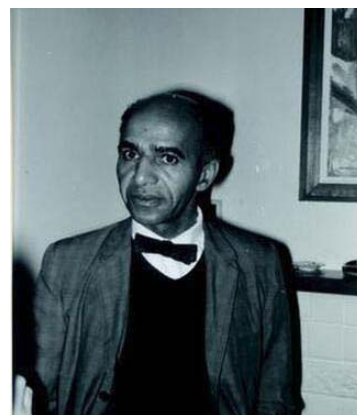
During the summers of 1948-50, Blackwell would work as a mathematician at the RAND Corp. as he sought external mathematical stimulation away from Howard University. There, Blackwell would work alongside statistician Abe Girshick. Blackwell had first encountered Girshick at an American Statistical Association meeting in Washington. Girshick had given a lecture on sequential analysis and Wald's equation, which challenged Blackwell. This talk would be what sparked Blackwell's interest in statistics. (Albers, 2008) After the lecture, Blackwell constructed a counter-example of Wald's equation and mailed it

to Girshick. Though Blackwell's example proved wrong, this prompted Girshick to invite Blackwell to meet with him. This meeting would spark a lasting friendship and comradery that would propel Blackwell's career to new heights and usher him to the world stage of mathematical statistics.

While at the RAND Corp. Blackwell began to work in the field of game theory. Blackwell and Girshick started on the theory of duels – or the duelist's dilemma –, which involves any two-person, zero-sum game, such as a traditional duel with firearms, a playground game of rock-paper-scissors, or even a game of checkers. One of Blackwell's achievements was connecting the idea that topology and game theory could go hand-in-hand through a game-theoretic proof of the Kuratowski Reduction Theorem. Blackwell would only briefly look beyond zero-sum games by exploring the sure thing principle, which was an idea brought forth by another of Blackwell's mentors at the RAND Corp., Jimmie Savage. Blackwell's moral fiber as a scientist put an end to this further research of the sure thing principle in part because of the negative aspect the mathematical response may have on social, psychological, or economical outcomes. With the arms race of the Cold War looming, the sure thing principle was on display between the United States and the Soviet Union having to choose between either further arming or disarming against not knowing what the enemy was doing. (Agwu, Smith, & Barry, 2003)

“I started working on the particular game where the sure thing principle led to behavior that was not best. So, I stopped working on it,”
– Blackwell. (Agwu, Smith, & Barry, 2003)

After a discussion about the Air Force research budget with an economist at the RAND Corp. that did not go well, Blackwell sought out the guidance of Savage. The conversation with Savage opened Blackwell's perception to a completely new view on statistical inference – the Bayesian approach. From this point on, the Bayesian approach would influence Blackwell's work going forward.



David Blackwell, Seattle 1967, Photo credit: Konrad Jacobs)

Nineteen fifty four would be a pivotal year for Blackwell. It was this year that Blackwell's friendship with Girshick culminated with them releasing their collaborated efforts in the form of the now classic book, *Theory of Games and Statistical Decisions*. Their book explored statistical evaluating procedures through decisions and game theory. It was also in 1954 that Blackwell accepted a position as a visiting professor at the University of California, Berkeley. At the International Congress of Mathematicians in Amsterdam during



1954, Blackwell gave an invited talk on probability that led to UC-Berkeley's interest in hiring Blackwell.

Blackwell had previously interviewed at UC-Berkeley back in 1942, but did not secure a position under the guise of the department wanting to hire a woman due to wartime efforts. (Agwu, Smith, & Barry, 2003) Blackwell would later in his career find out the then head of the math department's wife protested Blackwell's hiring. It was customary to host faculty members in their home and the wife objected to hosting a black man in her house.

“– was not going to have that darky in her house,” – Blackwell recalled what he learned years later of what the wife of the UC-Berkeley's Mathematics Department Head told her husband upon hearing about Blackwell possibly being hired in 1942. (St. Louis Post-Dispatch, 2010) (Cattau, 2010)

As the Civil Rights era began to unfold in the United States, Blackwell began his tenure at UC-Berkeley, where he befriended Dr. Jerzy Neyman, the Mathematics Department Chair who interviewed him twelve years prior. Headed up by Neyman, the Statistics Laboratory separated from the Mathematics Department in 1955. It was also in 1955 that Blackwell received a promotion to full professorship in the newly formed Statistics Department. By 1956, Blackwell became Chair of the UC-Berkeley Statistics Department. Blackwell served as Chair of the Statistics Department until 1961 and continued his career at Berkeley until his retirement in 1988. Between 1964 and 1975,

Blackwell served in various roles while still maintaining his research and teaching full-time. From 1964-68, Blackwell served as the Assistant Dean of the College of Letters and Science and from 1973-75 served as Director of the University of California Study Center for the United Kingdom and Ireland. (Agwu, Smith, & Barry, 2003) (Hunter, 2010) (Grimes, William, 2010)

“People have different learning styles, abstract, concrete, visual, hearing, spatial, and so on. So it is necessary for teachers to reflect these learning styles in their teaching if they would like their students to appreciate the beauty of what they are teaching,” – Blackwell on reflecting on his style of teaching. (Agwu, Smith, & Barry, 2003)

With the premise of incorporating new evidence instead of relying on historical data, Blackwell's book “Basic Statistics” (1969) was one of the first textbooks on Bayesian statistics. (Grimes, William, 2010) This inspired the 1995 textbook by biostatistician Donald Berry, “Statistics: A Bayesian Perspective”.

President Barack Obama presents the National Medal of Science posthumously to David Blackwell, University of California, Berkeley, Calif. in the East Room of the White House, Nov. 20, 2014. (Official White House Photo by Chuck Kennedy) Blackwell received twelve honorary Doctorate of Science degrees over the course of his career; University of Illinois (66), Michigan State University (69), Southern Illinois University (71), Carnegie-Mellon University (80), National University of Lesotho (87), Amherst College, Harvard University

(88), Howard University, Yale University, University of Warwick (90), Syracuse University (91), and The University of Southern California (92).



President Barack Obama presents the National Medal of Science posthumously to David Blackwell, University of California, Berkeley, Calif. in the East Room of the White House, Nov. 20, 2014. (Official White House Photo by Chuck Kennedy)

Blackwell would go on to hold many notable leadership roles throughout his career, including: vice president of the American Mathematical Society from 1968-71; president of the International Association for Statistics in the Physical Sciences in 1973; vice president of the International Statistical Institute from 1975-78; elected Honorary Fellow of the royal Statistical Society in 1976; and vice president of the American Statistical Association in 1978. In 1979, Blackwell received the John von Neumann Theory Prize, named after one of Blackwell's earliest professional mentors. Blackwell received this award for his work in Markovian decision processes, and his contributions in probability theory, mathematical statistics, and game theory.

In October of 2014, then U.S. President, Barack Obama announced the recipients of

the 2014 National Medal of Science award. Blackwell posthumously received the country's highest distinction for contributions to scientific research and for his work in mathematics and statistics. (Kehoe, 2015) It was also in 2014 that the first Blackwell Lecture to honor David Blackwell for his contributions to statistics and overcoming adversity was held by the Institute of Mathematical Statistics. (Bickel, 2012)

His work on game theory, the renewal theorem, dynamic programming, the Rao-Blackwell theorem, comparison of experiments – which he founded – is all just a small testament to his many contributions to the science of mathematics and statistics. However, with all of his contributions to the world, his numerous published papers and books, his leadership roles, and his awards and honors, Blackwell was most proud of his greatest achievement, his family.

“The best thing I ever did in life was to get married to my wife,” – Blackwell (Agwu, Smith, & Barry, 2003)

Ann Madison and David Blackwell wed on December 27, 1944 and proceeded to have eight children over the course of their lives together.

David H. Blackwell died on July 8, 2010 at the age of 91.

Aaron Thompson is a staff writer and office administrator for the Office of Graduate Records & Admission at the University of Illinois. He can be reached at aaron5@illinois.edu. □



You Are Invited to Donate to NAM's PIEF, NAM's Endowment Fund

During the years 2017 – 2019, NAM conducted a **successful NAM 50th Anniversary Year (2019) Campaign** which produced most of the current **very low six figure fund** that constitute NAM's 2020 Endowment Fund which is called NAM's PIEF (NAM's Perpetual Investment and Endowment Fund). It is the goal of NAM to increase NAM's PIEF to be at least a \$1,000,000 Endowment Fund by NAM's 55th Anniversary Year (2024). NAM needs this Endowment Fund to ensure that it will be able to plan ahead and implement, annually, all of NAM's Signature and Seasonal Programs and Activities at levels (attendance-wise) that have been very effective in the past. **The Principal of the Endowment Fund will increase continuously. Only the annual yield of dividends, interests, and annuities will be used for expenses** to HELP support NAM's Signature and Seasonal Programs and Activities when insufficient grant monies or membership dues are not available during a given year.

What kind of Donations are accepted in NAM's Endowment Fund?

- A. Get a Life Membership in NAM (\$1,000);
- B. Make a Special Philanthropic Donation to NAM of \$1,000 or more; or
- C. Partially or fully endow one of NAM's Signature Programs or Activities.
- D: How To Fully or partially Endow one of NAM's Signature Programs or Activities:
 - 1. The Haynes-Granville-Browne PhD Presentations; \$50,000, Fully; \$10K+, partially
 - 2. Cox-Talbot Address \$50,000, Fully; \$10K +, partially
 - 3. Claytor-Woodard Lecture \$50,000, Fully; \$10k+, partially
 - 4. Stephens-Shabazz Teaching Award \$50,000, Fully; \$10 k+, partially
 - 5. David Blackwell Lecture \$50,000, Fully; \$10k+, partially
 - 6. J. Ernest Wilkins Lecture \$50,000, Fully; \$10k+, partially
 - 7. A. T. Bharucha-Ried Lecture \$50,000, Fully; \$10k+, partially
 - 8. NAM FCRTE (NAM Annual Faculty Conference) \$150,000, Fully; \$25k+, partially
 - 9. NAM Annual Undergraduate MATHFest \$300,000, Fully; \$50k+, partially
- E. Other ways to Donate: 1. Include NAM in your Will; 2. Bequeath NAM a Gift (\$5000+); 3. Make NAM a Beneficiary of an Insurance Policy; 4. Give NAM a Gift in Honor of a special person/mathematician/mathematics educator/etc

ALL DONATIONS WILL BE ACKNOWLEDGED BY A CERTIFICATE OF GIFT.
Send Donations to NAM Treasurer: treasurer@nam-math.org, Cory Colbert. NAM is a 501 (c) 3 organization; **ALL DONATIONS ARE TAX DEDUCTIBLE.**

INTRODUCING THE UPDATED WEBSITE
MATHEMATICIANS
of the African Diaspora



Marjorie Lee Browne

Who was the first Black woman to get a PhD in math?



David Blackwell



Trachette Jackson



Sylvia Bozeman



Arlie Petters



Scott Williams

In 1997, Dr. Scott Williams founded the MAD Pages, a website detailing the history of hundreds of Black mathematicians.

How many African American mathematicians went to my school?

How do I edit a profile?

<https://www.mathad.com>



Updated “MAD Pages” Website Unveiled Oct 9, 2020

by Edray Herber Goins

In 1997, Scott Williams (SUNY Buffalo) founded the website “Mathematicians of the African Diaspora,” which has since become widely known as the MAD Pages. According to a 2019 blog written by Scott Williams for the American Mathematical Society, “As a child I was struck by the emphasis, within the general American culture, upon achievements in the Sports/Entertainment Industry as indications of success. Within the African American subculture, those indications are even stronger – just consider the winners of the NAACP Image Awards among other celebrations. On the rare occasion a scientist has won an award, there has been a limitation to the medical field. In addition, where it concerns successes in mathematics and the sciences, I discovered much incorrect or misconstrued information available in texts and especially on the web.”

Williams built the site over the course of 11 years, creating over 1,000 pages by himself as a personal labor of love. The site features more than 700 African Americans in mathematics, computer science, and physics as a way to showcase the intellectual prowess of those from the Diaspora. Williams provided profiles of these individuals, detailing their education, their journey within mathematics thus far, and their accomplishments. He also created numerous pages discussing Black history within

the mathematical sciences, and presented data on the demographics of Black people in the mathematical sciences at the time. Since its creation, the MAD Pages have received more than 20 million visitors, and provided immeasurable inspiration and validation to many Black mathematicians and students.

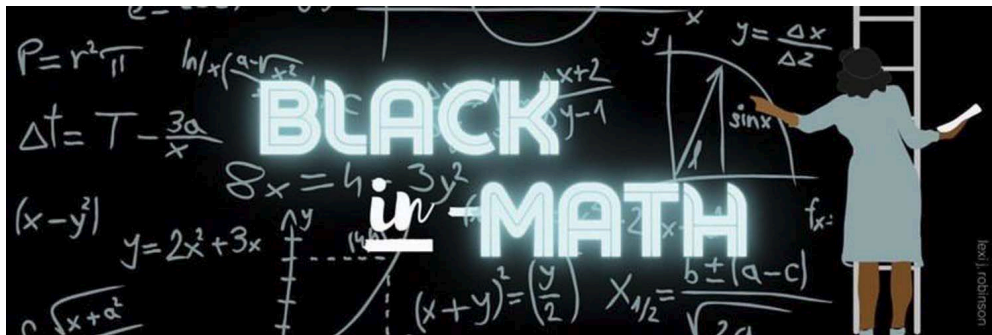
Scott Williams retired in 2008. After an initial town hall meeting about the future of the MAD Pages, which took place at a Conference for African American Researchers in the Mathematical Sciences (CAARMS), an informal group of mathematicians decided to work together to preserve Williams’ work. In 2015, the National Association of Mathematicians (NAM) formed an ad hoc committee to update the MAD Pages, consisting of NAM President Edray Goins (Pomona College), Committee Co-Chairs Don King (Northeastern University) and Asamoah Nkwanta (Morgan State University), and web developer John Weaver (Varsity Software). The MAD Pages Update Project was funded in part by Temple University, the Educational Advancement Foundation (especially Albert Lewis and Harry Lucas), the Mathematical Sciences Research Institute (MSRI), the National Science Foundation (DMS-1560394), Northeastern University, Pomona College, and Washington & Lee University. We employed nearly four dozen

undergraduate students from across the country to assist with this project; they greatly contributed to the database's depth and accuracy.

The updated MAD Pages will be unveiled to the public on October 9, 2020. "This unveiling date intentionally coincides with the death of Benjamin Banneker, arguably the first African American mathematician," states committee member Edray Goins. "His collected works were lost in a mysterious fire which occurred on the day of his funeral. The MAD Pages is dedicated to the quest of preserv-

ing the memory of African American mathematicians, lest they be lost forever." The new pages consist of a database containing biographical information of more than 700 mathematical scientists from the diaspora. This site employs a wiki model, allowing users to create their own profiles and update any incorrect information. The new site can be found at <http://www.mathad.com>.

Edray Herber Goins is Professor of Mathematics at Pomona College, and President Emeritus of NAM. He can be reached at edray.goins@pomona.edu. □



The First Annual BlackinMathWeek Twitter Event

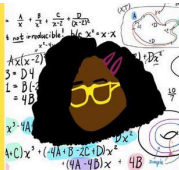
by Omayra Ortega and Noelle Sawyer

The First Annual #BlackinMathWeek Occurred During the Week of November 8-13, 2020. This week was created to highlight the achievements of Black Mathematicians, who are often undercounted and underestimated. More than we would like, we find ourselves as

the only Black person in our departments and when meeting new people we hear people say things like, 'I've never met a black mathematician before!' These types of reactions come from a lack of awareness of the many diverse Black mathematicians working in our field. Building off the work be-

gun by platforms like the Mathematicians of the African Diaspora (MAD) Pages and Mathematically Gifted and Black, #BlackInMathWeek is a highly visible celebration of the legacy of meaningful contributions that Black people have made to the mathematical sciences.

This Twitter takeover was co-founded by Anna Gifty Opoku-Agyeman, Marissa Kawehi Loving, Omayra Ortega, Candice Price, Noelle Sawyer, Angela Tabiri, Michole Washington, and Dwight Williams II as a way to follow up the success of #BlackInNeuro and #BlackandSTEM, while focusing on mathematics and other quantitative sciences.

#BlackInMathWeek	Sunday Nov 8th #BlackInMathRollCall	Monday Nov 9th #ILookLikeAMathematician	
	Tuesday Nov 10th #BlackInMathMedia	Wednesday Nov 11th #MyBlackMathJourney	
			Friday Nov 13th #JingleJangleMathJam

Follow us on twitter @BlackInMath for updates!

Each day of the week, a different activity was highlighted. You can check out the happenings of each event by searching their associated hashtags on Twitter:

- **Sunday, Nov 8:** Black math Twitter identified and introduced themselves with the tag **#BlackInMathRollCall**
- **Monday, Nov 9:** Black mathematicians shared selfies with the tag **#ILookLikeAMathematician**

- **Tuesday, Nov 10:** The Black inMath account shared Black mathematicians appearing in articles, books, movies and podcasts with the tag **#BlackInMathMedia**
- **Wednesday, Nov 11:** Black mathematicians shared advice to aspiring mathematicians and shared their stories with **#MyBlackMathJourney**
- **Thursday, Nov 12:** People shared Black math educators who were important to them with the tag **#BlackInMathEd** and there was a special Black in Math Week episode of the podcast Relatively Prime (see links later in this article)
- **Friday, Nov 13:** A movie night, watching Jingle Jangle on Netflix with the tag **#JingleJangleMathJam**

The 2020 #BlackinMathWeek shook the Twitter-verse with posts from hundreds of mathematicians, data scientists, math educators, computer scientists, statisticians and applied mathematicians. #BlackinMathWeek was highlighted by @NatGeoEducation, MC Hammer, Global Math Department and others throughout the event.

On Thursday, Michole Enjoli and Noelle Sawyer recorded a fantastic podcast episode of Relatively Prime, as part of their take over for Black in Math Week. They talked to Brea Ratliff and José Vilson, two Black math educators, and discussed what it's like to be Black in math, what they would say to people making common false statements about

Black students in math, and shared their hopes and dreams for Black students. Drs. Sawyer, Ratcliff, Vilson, and Ms. Enjoli talked a bit about Afrofuturism in the episode. Afrofuturism is a movement in literature, music, art, etc., featuring futuristic or science fiction themes which incorporate elements of black history and culture. You can listen to this podcast here: <https://soundcloud.com/acmescience/blackinmathweek>

If you're interested in checking out more on Afrofuturism, try SpaceBox, a STEM escape room to save astronauts from a virus, and this special minizine from Bitten Magazine!

Throughout the week, donors wishing to donate to this endeavor were encouraged to donate to the following organizations whose aims are in line with #BlackinMathWeek. To keep the momentum of #BlackinMathWeek going, we encourage those who can to continue giving to the following organizations:

Black Girl Mathgic : Black Girl MATHgic is a subscription box curated to increase math confidence and decrease math anxiety in girls on a 3rd-8th grade math skill level. This box is curated for Black girls! You can buy one for yourself or donate the cost of shipping or a box + shipping at the link.

Mathematically Gifted & Black (MGB) : highlights Black mathematicians. New honorees are added during Black History Month

Cashapp: \$mathgiftedblack

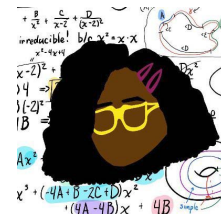
venmo: Mathematically-GiftedAndBlack at editor@nam-math.org.

Paypal: @mathgiftedblack
100% of the money goes toward supporting predoctoral mathematicians to pursue career goals related to math!

The Sadie Collective : addresses the pipeline and pathway problem in economics, finance, data science, and public policy through curated content creation, programming, and mentorship. Donations go toward producing more programming and building the capacity of said programs!

The National Association of Mathematicians : seeks to promote excellence in the mathematical sciences for underrepresented American minorities in general and African-Americans in particular. Join the National Association of Mathematicians or make a donation at the link!

SpaceBox : immerses players into a Black centered reality where they will think critically, problem solve, and explore science, technology, engineering, and mathematics in a fun way. Think of It like an escape room in a box! Order one of your own or donate to support the creatives on this endeavor at the link!



Omayra Ortega is a Professor of Mathematics at Sonoma State University and is the Editor of the NAM Newsletter. Dr. Omayra Ortega can be reached at editor@nam-math.org. □



Outside Academia

by *Carla Cotwright-Williams*

As the Outside Academia member of the NAM Board of Directors, I wanted to take the opening to begin a broader discussion with the NAM membership to explore the many employment opportunities which are outside academia for mathematically-trained individuals. Whether you have a Ph.D., M.S., or B.S./B.A., your math degree can return big dividends in private industry and the public sector.

In coming months, look to learn about various career opportunities which have foundations in the mathematical sciences. I will also share developmental opportunities to expand your skills and abilities to be prepared for math-centered jobs of the 21st Century. There are a multitude of opportunities, from paid internships, REUs (Research Experiences for Undergraduates), non-paid internships, faculty summer and sabbatical fellowships, where you can learn about and solve real world problems.

My path has not been linear. Early on, I really didn't know enough to make informed decisions on which courses to take or what positions would help me grow me as a mathematician/scientist. I'll share some useful advice which has brought me to this point in my career.

I've always been a curious person. I wanted to know more about the world around me. I took several concerted steps to improve my knowledge about the mul-

titude of careers available to those with a math degree.



Dr. Carla Cotwright-Williams

First, I took more math-centric classes. Now, granted, I didn't fully appreciate this as undergrad. But as I entered graduate school and beyond graduation, I began to look at math differently. While I learned math for class (and comprehensive exams), I endeavored to learn potential connections math had to other subjects. For example, as a pure math student, I didn't really appreciate the use of differential equations to modeling population growth or spread of disease. It took me time to appreciate the usefulness of mathematics I had been challenged by in the past. I had to open myself to the possibilities of math outside of what I had grown comfortable to.

Presently with the expansion of interdisciplinary subjects like Data Science and Operations Research, mathematically intensive non-math courses are widely available through traditional learning and on-line learning such as MOOCs (Massive

Open Online Courses). Individuals can survey and explore so many types of courses from top schools and sometimes for free.

Second, I shared my desires to learn more about and use my math in new ways. One mentor, shared with me a book on financial mathematics. It was a small paperback book. It was easy to understand and helped me the application of some the concepts I had in my mathematical tool belt. Since this experience was outside a classroom, I didn't feel the pressure of learning something new for a capstone project or course grade. I could learn simply because I was interested in the topic.

I found opportunities to network and share my interests while attending conferences and workshop. This is further simplified given the limitations of the COVID-19 pandemic. Many conferences are virtual and registrations are at significantly low rates. Speakers lists are a great way to identify potential contacts to communicate with to learn more about their work and the real-world mathematics they perform.

Third, perhaps most difficult, is taking action on your new endeavor. One of the most daunting steps I took in my career path was actually stepping out on faith (and my preparation) to seek out and accept a new position outside of academia. I started out with baby steps by conducting on-site research at two federal facili-

ties while still in my tenure-track position. This was a huge step because I was in a totally new environment with people who I viewed as the pinnacle of the applied real-world math. I felt like lives depended on the success of their immediate work. In many ways, this is true. However, I think it was my internal way of psyching myself out initially. I quickly realized that most people doing math in the real world did not have math degrees. I found the environments welcoming of my unique knowledge and expertise.

I hope to hear from you - undergraduates, graduate students, post docs, faculty or anyone interested in learning about or transitioning to a math-centric career. Whether is a policy job or a chief engineer, we can talk about it here in this regular section of the NAM newsletter. If you have a particular math-centric or math-adjacent career you're interested in learning more about and would like to see featured here, please send your ideas to outside-academia-member@nam-math.org.

Carla Cotwright-Williams is a Senior Data Scientist for the US Government and serves on the Board of NAM as the Outside Academia Representative. Dr. Carla Cotwright-Williams can be reached at outside-academia-member@nam-math.org.

□



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>

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 gocccombinatorics@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.

The Julia Robinson Mathematics Festival (JRMF) seeks to inspire joy in mathematics through exploration and collaboration. Due to COVID-19, the JRMF team has been organizing Webinars in 3 different languages: English (Saturdays at 7 pm EDT), Spanish (Saturdays at 12 pm

EDT) and Hebrew (Thursdays at 12 pm EDT). These virtual events are free and open to the general public, which means that kids and adults of all ages are welcome to join. These webinars are held in Zoom. Depending on whether the attendees are kids or adults, the participants are separated into breakout sessions with one facilitator per session. Every week we explore a different fun math Activity.

You are encouraged to attend these fun virtual events and spread the word of this great opportunity to discover the beauty and richness of mathematics in a collaborative environment. If you are interested in volunteering to become a facilitator of the JRMF Webinars, please contact Dr. Jeanette Shakali, the JRMF Outreach and Marketing Consultant, at jeanette.shakalli@jrmf.org.

The Online Undergraduate Resource Fair for the Advancement in Academia of Marginalized Mathematicians (OURFA²M²) will take place virtually on December 19th, 2020. The goal of the fair is to inform undergraduate students from marginalized groups about the process of starting a mathematics research career, and to share resources and possibilities to explore during undergrad. We hope to encourage students to consider

research careers and to see themselves as future mathematicians. To register or learn more, see our website at is.gd/ourfa2m2 Please register by December 11, 2020.

NOTE: Graduate students, postdocs, professors, and other professional mathematicians are also welcome to attend, especially to hear OUR stories and to join the networking lunch. To do so, please fill out our registration form.

El Seminario Interuniversitario de Investigación en Ciencias Matemáticas (SIDIM XXXVI) will be held virtually on February 26-27, 2021. The keynote speakers for this year's meeting will be Dr. Rochelle Gutierrez (University of Illinois at Urbana-Champaign) and Dr. Tatiana Toro (University of Washington). For more information and to register, please go to: <https://sidim.uprh.edu>.

The Organizing Committee invites interested parties to submit abstracts for presentations, posters or thematic sessions. All abstracts and mini-symposia proposals must be submitted by email to sidimcp@gmail.com on or before January 31, 2021 to be evaluated for presentation.

2021 ADJOINT workshop at the Mathematical Sciences Research Institute (MSRI) is taking place June 21 - July 2 in Berkeley, California. The African Diaspora Joint Mathematics Workshop (ADJOINT) is a two-week summer activity designed for researchers with a Ph.D. degree in the mathematical and statistical sciences who are interested in conducting research in a collegial environment. The main objective of ADJOINT is to provide opportunities for in-person research collaboration to U.S. mathematical and statistical scientists, especially those from the African Diaspora, who will work in small groups with research leaders on various research projects. This program will enhance the mathematical and statistical sciences and its community by positively affecting the research and careers of African-American mathematical and statistical scientists and supporting their efforts to achieve full access and engagement in the broader research community.

Learn more and Apply Online by December 15, 2020

AMS CONGRESSIONAL FELLOWSHIP

Deadline: February 1, 2021

Applications are now being accepted for the AMS Congressional Fellowship for 2021. The AMS congressional fellow will spend the year working on the staff of a Member of Congress.

Prospective Fellows must demonstrate expertise in an area of mathematical sciences; demonstrate sensitivity toward political and social issues; and, most importantly, display a strong interest in applying personal knowledge toward solving societal problems.

Eligibility:

- Applications are invited from individuals in the mathematical sciences.
- Applicants must have a PhD or an equivalent doctoral-level degree by the application deadline (February 1, 2021).
- Applicants must be U.S. citizens.
- Federal employees are not eligible.

Stipend amount: The stipend for the fellowship period (September 1, 2021–August 31, 2022) will be \$86,335, with allowances for relocation and professional travel and a contribution towards health insurance.

Apply for the AMS Congressional Fellowship at <https://bit.ly/2X5Yi3D>
DEADLINE FOR APPLICATIONS IS 11:59 P.M. EST ON FEBRUARY 1, 2021.



Job Openings

University of Washington - Department of Mathematics: Postdoctoral Scholar

The Department of Mathematics at the University of Washington invites applications for **multiple non-tenure-track postdoctoral positions** beginning September 2021. Applicants are required to have a PhD, or foreign equivalent, by the starting date, and to be highly qualified to teach a full-time load of undergraduate and graduate courses while also engaging in ongoing and active independent research. Priority will be given to applicants whose complete applications, including recommendations, are received by December 1, 2020. For the full job description and application, please visit <https://apply.interfolio.com/77988>.

University of Pennsylvania – Department of Mathematics

At least one position of **Hans Rademacher Instructor** will be available beginning July 1, 2021. Candidates should have a strong research program and will participate in the Department's undergraduate and graduate mission. Initial full-time appointment will be for one year with annual renewal up to two additional years contingent on satisfactory performance review and approval of the Dean.

Applications should be submitted online through MathJobs.org and include the following items: cover letter, curriculum vitae, research statement, teaching statement, publication list and at least 3 reference letters from mathematicians familiar with your work (one of these should comment on your teaching ability).

Review of applications will begin January 4, 2021 and will continue until the position(s) is filled.

The Mathematics Department values interdisciplinary research, collaboration, and collegiality; is committed to promoting a culturally diverse intellectual community; and strongly encourages applications from women, minorities, and underrepresented communities. The University of Pennsylvania is an equal opportunity and affirmative action employer. Candidates are considered for employment without regard to race, color, sex, sexual orientation, gender identity, religion, creed, national or ethnic origin, citizenship status, age, disability, veteran status or any other legally protected class. Questions or concerns about this should be directed to the Executive Director of the Office of Affirmative Action and Equal Opportunity Programs, University of Pennsylvania, 421 Franklin Building, 3451 Walnut Street, Philadelphia, PA 19104-6205; or (215) 898-6993 (Voice) or (215) 898-7803 (TDD).

Yale University – Department of Mathematics

The **Gibbs Assistant Professorships** are intended primarily for individuals who received their Ph.D. degree and show definite promise in research in pure or applied mathematics. The department expects to be able to make several offers for a Gibbs Assistant Professorship. Appointments are for a three -year term. The annual salary will be at least \$84,000. Each recipient of a Gibbs Assistant Professorship will be given moving allowance based on the distance to be moved.

The teaching load for Gibbs Assistant Professors will be kept light, to allow ample time for research. This will consist of three one-semester courses per year. Part of the duties may consist of a one-semester course at the graduate level in the general area of the instructor's research.

Yale is an Affirmative Action/Equal Opportunity Employer. Yale values diversity among its faculty, students and staff and strongly welcomes applications from women, persons with disabilities, protected veterans, and under-represented minorities. Review of applications will begin immediately with an application deadline of December 1, 2020.

Submit applications and supporting material through MathJobs.org. Submit inquiries to math.positions@yale.edu. Offers expected to be made in early January 2021.

Beloit College – Department of Mathematics

Beloit College, a selective undergraduate liberal arts college, seeks excellent teachers and productive researchers for **two tenure-track positions** to begin in August 2021. One candidate will have expertise in algebra, analysis, or number theory; another candidate will have expertise in statistics. The successful candidates will teach six courses per year; develop research programs that engage undergraduates; contribute to all-college programs; and participate in campus governance.

For more information, including required application materials, please see:

<https://www.beloit.edu/live/profiles/3780-assistantassociate-professor-of-math>. Review of applications will begin 11/30/2020. Inquiries may be addressed to Dr. Kristin Bonnie, Chair of the Search Committee, at bonniek@beloit.edu.

Beloit College aspires to be an actively anti-racist institution. We encourage all interested individuals meeting the criteria of the described positions to apply. AA/EEO



Carnegie Mellon – Department of Mathematical Sciences: Math Finance TT

The Department of Mathematical Sciences at Carnegie Mellon University invites applications for a **tenure-track position** to begin September 1, 2021. This search will focus on the area of mathematical finance, broadly construed. The department has long-standing strength in this area and plays a leading role in interdisciplinary educational programs in computational finance at the bachelor's and master's levels. In addition, the department graduates PhDs and supports post-doctoral fellows working in mathematical finance. Preference will be given to candidates who have shown outstanding promise and/or excellent accomplishments in research, and who are pursuing a vigorous research program. Promise of excellent ability to teach and mentor students of diverse backgrounds is a plus.

Applications should be submitted by November 15, 2020 for full consideration.

The Department of Mathematical Sciences is committed to increasing our faculty diversity. Carnegie Mellon considers applicants for employment without regard to, and does not discriminate on the basis of gender, race, protected veteran status, disability, or any other legally protected status.

Applicants should submit all materials electronically through <https://apply.interfolio.com/79241> and www.mathjobs.org. This includes a cover letter, curriculum vita, list of publications, a statement describing current and planned research, a teaching statement, and at least three letters of recommendation. Letters of recommendation will be solicited through Mathjobs.

Applications may be accepted and reviewed until the position is filled.

Carnegie Mellon – Department of Mathematical Sciences: Postdoctoral Scholars

The Department of Mathematical Sciences desires to make a **two or three-year post-doctoral appointment in stochastic analysis, with a preference for financial mathematics**, beginning in September 2021. Applicants should submit all materials electronically through Interfolio and MathJobs. This includes a cover letter, curriculum vitae, list of publications, and a statement describing current and planned research. At least three letters of recommendation, one of which addresses teaching, should be submitted through MathJobs, <https://www.mathjobs.org/jobs/list/16299>. For full consideration, applications should be submitted by December 31, 2020.

Carnegie Mellon is an Affirmative Action/Equal Opportunity Employer and encourages applications from women and underrepresented minorities.

Boston University School of Public Health – Department of Biostatistics

Assistant Professor, Department of Biostatistics, Boston University School of Public Health. The successful applicant will be committed to excellence in scholarship and teaching. All outstanding applicants are encouraged to apply; however, the department is especially interested in candidates with expertise in the area of big data analytics, or related disciplines, with possibility of a secondary appointment with the Faculty of Computing and Data Sciences. Boston University is committed to fostering a diverse and inclusive community. Application submission is at <https://academicjobsonline.org/ajo/jobs/17077>.

Swarthmore College – Department of Mathematics and Statistics

The Department of Mathematics and Statistics at Swarthmore College invites applications for **two tenure-track Assistant Professor positions in Mathematics**, to begin Fall 2021. The teaching load is four courses a year, normally divided equally between the two semesters. The Swarthmore undergraduate student body has 44% U.S. minority enrollment and 11% international enrollment.

Reflecting the institution's values, our department is diverse and inclusive, with two-thirds of our tenure-line faculty being women, people of color, and/or members of the LGBTQ+ community. We encourage applications from members of underrepresented groups with respect to gender, race and ethnicity, religion, sexual orientation, disability status, socioeconomic background, and other axes of diversity.

For a list of required application materials and how to submit an application, please visit <https://www.mathjobs.org/jobs/list/16351>. Inquiries about the position may be sent to textitmathstatsearch@swarthmore.edu, which will be checked every few days throughout the search. All completed applications received by November 1, 2020 will receive full consideration.

Swarthmore College is a highly selective liberal arts college, located in the suburbs of Philadelphia and near Wilmington, DE, whose mission combines academic rigor with social responsibility. Swarthmore has a strong commitment to inclusive excellence through diversity in its educational program and employment practices. The College actively seeks and welcomes applications from candidates with exceptional qualifications, particularly those with demonstrable commitments to a more inclusive society, both within and outside the department. For more information on Faculty Diversity and Excellence at Swarthmore, see <http://www.swarthmore.edu/faculty-diversity-excellence/information-candidates-new-faculty>. The College is an Equal Opportunity Employer.



California State University, Fresno – Department of Mathematics

California State University, Fresno (Fresno State) invites applications for a **full-time, tenure-track position in the Department of Mathematics** beginning in Fall 2021 at the Assistant Professor rank. A Ph.D in Mathematics Education, or closely-related field, with a strong background in mathematics, is required. For more information visit <http://www.fresnostate.edu/adminserv/hr/jobs/>. Review of applications will begin November 30, 2020, and will continue until the position is filled. Fresno State is an affirmative action/equal opportunity institution. For inquiries, contact: Dr. Oscar Vega, Search Committee Chair. E-mail: ovega@csufresno.edu.

The University of Alabama – Department of Mathematics

The Department of Mathematics at The University of Alabama invites applications for a **tenure-track position at the Assistant Professor level in scientific computing**. We are seeking applicants in the areas of numerical PDEs and computational modeling. Research of ideal candidates should have specific applications in a field of natural science or engineering, which may involve, but not limited to, machine learning or uncertainty quantification. The position will begin August 16, 2021. For the complete description of the position, including expected qualifications and required application materials, and to apply, please see the official ad and online application at <http://facultyjobs.ua.edu/postings/47545>. Applications will be reviewed on an ongoing basis starting December 1 and will continue until the position is filled. We plan to conduct interviews remotely to limit travel.

Colby College – Department of Mathematics

Lecturer/Senior Lecturer Continuing Position in Mathematics

Colby is seeking to hire a **Lecturer in Mathematics with special focus on Calculus**, beginning in Fall 2021. Applicants with significant experience can be considered for a Senior Lecturer appointment. This is a non-tenure track continuing position emphasizing teaching and service, with special focus on the Calculus program. For a detailed job description and more information on the application procedure, please consult www.colby.edu/mathstats/. All materials should be submitted online at <http://www.mathjobs.org>. Review of applications will begin on December 1, 2020, and will continue until the position is filled.

Spelman College – Department of Mathematics

Spelman College seeks teacher/scholars dedicated to excellence in teaching and to the continued enhancement of the academic environment for students and colleagues. Founded in 1881, Spelman College is a private four-year liberal arts college located in Atlanta, GA. The oldest historically Black college for women in the United States, Spelman is a member of the Atlanta University Center Consortium and Atlanta Regional Consortium for Higher Education. All tenure-track candidates are expected to have a demonstrated interest in liberal arts and sciences education, contribute effectively to undergraduate teaching, assist in curriculum development, provide service to the department and College, as well as be active in scholarly, creative, and/or research productivity appropriate to a liberal arts environment.

The Department of Mathematics invites applications for a **tenure-track position at the rank of Assistant Professor, in Applied Math, Computational Math, Data Science, Mathematical Biology, Operations Research, or other related areas of mathematics, to begin August 2021. Candidates with experience in data science/analytics, big data, artificial intelligence, or machine learning** are especially encouraged to apply, but all areas of applied mathematics will be considered. This appointment requires teaching, engaging in scholarly research activities, mentoring, and directing undergraduate research. The ideal candidate should be able to: teach a broad range of courses offered in the department, from college algebra and calculus to upper level major courses; teach effectively using a variety of instructional techniques, especially those that foster active engagement in class; provide high quality instruction and prepare instructional materials for courses; work with a diverse group of students; and work collaboratively with departmental colleagues to help maintain a collegial work environment. Qualifications Ph.D in Applied Mathematics, Mathematics, Statistics or a related area is required. Further instruction and application can be submitted at: <https://www.spelman.edu/career-center>

The College of Wooster – Dept of Mathematical & Computational Sciences

The College of Wooster is seeking a **two-year Visiting Assistant Professor in Statistical & Data Sciences**, to begin August 2021. We emphasize mentored undergraduate research and experiential learning, and serve a diverse student body (22% domestic students of color, 16% international), graduating 40-70 seniors annually in SDS, math, and computer science. Please see our full ad at <https://www.mathjobs.org/jobs/list/16723>. Apply by January 11.



Tufts University – Department of Mathematics

The Department of Mathematics at Tufts University invites applications for a **full-time, non-tenure track faculty position at the rank of Lecturer**, starting September 2021. The lecturer will have a 3-3 load, where responsibilities in course development, organization, and coordination may be arranged as course equivalents; for instance, 3-2 teaching plus one semester of additional responsibilities might be a typical assignment. There is some flexibility to teach across the undergraduate curriculum (and to propose graduate courses if desired), but our principal area of current need is probability and statistics for majors and non-majors. The faculty member's additional responsibilities may include mentorship of undergraduate and graduate students and administration of multi-section courses. Lecturers are expected to participate in department, school, and university-wide service. There will be opportunities for (optional) teaching and mentoring activities in the summer. The successful candidate must hold a doctoral degree in a relevant field, such as mathematics or applied mathematics, by the time the position will begin. University-level teaching and advising experience is required. The successful candidate will demonstrate a commitment to creative and student-centered teaching as well as a track record of outreach and mentorship with diverse student populations. Applications should have a versatile teaching portfolio and demonstrate the ability and willingness to teach courses in multiple areas, especially probability and statistics.

Application Instructions: All applications must be submitted via mathjobs at <https://www.mathjobs.org/jobs/list/16713>. Please see application instructions at the mathjobs listing. Questions about the application process should be directed to Department Chair Kim Ruane at Kim.Ruane@tufts.edu. The deadline for application is December 31, 2020.

Tufts University, founded in 1852, prioritizes quality teaching, highly competitive basic and applied research, and a commitment to active citizenship locally, regionally, and globally. Tufts University also prides itself on creating a diverse, equitable, and inclusive community. Current and prospective employees of the university are expected to have and continuously develop skill in, and disposition for, positively engaging with a diverse population of faculty, staff, and students. Tufts University is an Equal Opportunity/Affirmative Action Employer. We are committed to increasing the diversity of our faculty and staff and fostering their success when hired. Members of underrepresented groups are welcome and strongly encouraged to apply. See the University's Non-Discrimination statement and policy here

<https://oeo.tufts.edu/policies-procedures/non-discrimination/>. If you are an applicant with a disability who is unable to use our online tools to search and apply

for jobs, please contact us by calling Johny Laine in the Office of Equal Opportunity (OEO) at 617-627-3298 or at johny.laine@tufts.edu. Applicants can learn more about requesting reasonable accommodations at <http://o eo .tufts.edu>.

Tufts University – Department of Mathematics

Applications are invited for a **Norbert Wiener Assistant Professorship in Geometric Group Theory** to begin September 1, 2021, and lasting up to three years. Doctorate in Mathematics or related field required.

Applicants must show evidence of outstanding research in Geometric Group Theory. Preference will be given to candidates whose interests overlap with those of Tufts faculty in this area. Applicants must also show evidence of excellent teaching. Teaching will be expected at all levels of the curriculum as well as active participation in research seminars and colloquia. Tufts University, founded in 1852, prioritizes quality teaching, highly competitive basic and applied research, and a commitment to active citizenship locally, regionally, and globally. Tufts University also prides itself on creating a diverse, equitable, and inclusive community. Current and prospective employees of the university are expected to have and continuously develop skill in, and disposition for, positively engaging with a diverse population of faculty, staff, and students.

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Applications should include a cover letter, curriculum vitae, a research statement, and a teaching statement. All of these documents should be submitted electronically through <http://www.mathjobs.org>. In addition, applicants should arrange for three letters of recommendation to be submitted electronically on their behalf through <http://www.mathjobs.org>. If a recommender cannot submit online, we will also accept signed PDF attachments sent to genevieve.walsh@tufts.edu or paper letters mailed to Genevieve Walsh, Search Committee Chair, Department of Mathematics, 503 Boston Avenue, Tufts University, Medford, MA 02155. Review of applications will begin December 15, 2020.



Hanover College – Mathematics Department

Hanover College invites applications for a **full-time Instructor position in Mathematics**. The position is open to candidates with advanced degrees in Mathematics or Mathematics Education. This position is primarily a teaching appointment with seven sections per year on a 3-3-1 schedule, which will also require professional development and service activities. We are looking for candidates who are engaged, curious, and thoughtful about their teaching. The appointment will begin September 2021.

Successful candidates will be able to teach a wide variety of mathematics courses, with a particular emphasis on courses of interest to future teachers (including our Mathematics for Elementary School Teachers, History of Mathematics and Foundations of Geometry offerings), and will collaborate with the education department to develop suitable math offerings that will serve the needs of education majors. The 3-3-1 annual teaching schedule includes a range of service, lower-level, and upper-level mathematics courses.

Minimum qualifications: M.S. or higher in Mathematics, or Ph.D. in Mathematics Education, by time of appointment; evidence of teaching effectiveness; demonstrated commitment to working with diverse student and community populations; ability to embrace the liberal arts mission of the College. Preferred qualifications: experience teaching math education-oriented courses such as History of Mathematics and Foundations of Geometry

Electronic applications should include application letter, vita, teaching statement, evidence of teaching effectiveness, contact information for three references, and transcripts addressed to Dr. Charilaos Skiadas, Chair, Mathematics Search. To apply and upload documents, visit <https://hanover.hirecentric.com/jobsearch/>. For more detailed information about Hanover College, visit: <https://www.hanover.edu/about/employment>. Applications received by December 7, 2020 will receive full consideration; however, all applications will be considered until the position is filled.

Bowdoin College – Department of Mathematics

The Department of Mathematics at Bowdoin College invites applications for **two tenure track positions at the rank of assistant professor** beginning July 1, 2021. We look to welcoming two individuals who share our commitment to the goal of fostering an inclusive mathematical community through exemplary research, teaching, mentoring, and outreach. Applications are invited in all fields of mathematics and statistics and must be submitted through MathJobs.org. <https://www.mathjobs.org/jobs/list/16583>

Saint Mary's College – Department of Mathematics

The Department of Mathematics and Computer Science at Saint Mary's College is accepting applications for a tenure-track position to begin August 2021. Requirements include a Ph.D. in applied mathematics, mathematics, statistics, or computer science. The ideal candidate will be an applied mathematician with an emphasis in mathematical modeling and/or statistical applications with an expressed, preferably demonstrated, interest in teaching at the undergraduate level. For a full position description and application procedures, visit: <https://www.saintmarys.edu/hr/employment/faculty>

York University – Department of Mathematics and Statistics

The Faculty of Science of York University invites highly qualified candidates to apply for a professorial stream **tenure-track or tenured appointment in Mathematics or Statistics at the Assistant, Associate, or Full Professor** level to commence July 1, 2021.

This opportunity is open to qualified individuals who self-identify as Black peoples of African Descent (for example Africans and African heritage people from the Caribbean, Americas, Europe).

The Department of Mathematics and Statistics encourages applicants in any area and especially the field of Statistics with strength in Data Science, Artificial Intelligence, Machine Learning, or High dimensional Statistics, or any field of Pure Mathematics.

For more information, please see <https://academicjobsonline.org/ajo/jobs/16998>

Appalachian State – Department of Mathematical Sciences

We are seeking applications for **two assistant professor positions** to begin August 2021 (pending funding). The department offers an undergraduate degree in mathematics and actuarial science; undergraduate certificate programs in data science and in sports analytics; and a master's degree in mathematics. The department actively supports efforts to enhance inclusiveness so that every member of the academic community can participate and excel to the best of their ability. For details, go to: Applied Mathematics: <https://appstate.peopleadmin.com/hr/postings/26767> (screening begins on 1/4/21) Mathematics Education: <http://appstate.peopleadmin.com/postings/26768> (screening begins on 12/14/20)



United States Military Academy at West Point – Department of Mathematical Sciences

The United States Military Academy at West Point has multiple openings in the Department of Mathematical Sciences for the academic year beginning in the summer (late June) of 2021. This is a nonrenewable 3-year position. The salary plus locality adjustment is \$91,518.

The Department of Mathematical Sciences has a wealth of scholarship opportunities, especially in the fields of Data Science and Modeling. In addition, prospects exist for prominent roles in the Mathematical Competition in Modeling and the Interdisciplinary Contest in Modeling. West Point is committed to developing leaders of character and considers faculty roles as an integral part of cadet development. There are many opportunities to serve in cadet growth that extend beyond the classroom. The Department provides its faculty extensive mentorship and guidance for life-long career planning. Questions may be directed to Krista Watts, (845) 938-2276, krista.watts@westpoint.edu.

To apply, send a letter of application, curriculum vitae, transcripts, a statement of teaching philosophy and career goals, three letters of recommendation, and a DD 214 if claiming veteran's preference to: United States Military Academy, Dept. of Mathematical Sciences, ATTN: Yoselin Brice, 646 Swift Road, West Point, NY 10996 Phone: (845) 938-5315 Email: Yoselin.brice@westpoint.edu. Electronic applications are acceptable. Materials should be received by January 25, 2021 to receive consideration.

We will be conducting preliminary interviews virtually mid-January. If you have not completed your application but would like to be considered for an interview, please send your CV to Yoselin Brice at yoselin.brice@westpoint.edu.

Davidson College – Department of Mathematics

Davidson College invites applications for a tenure-track appointment in Mathematics and Computer Science at the rank of Assistant Professor, beginning July 1, 2021. The application deadline is November 4, 2020. Visit <https://employment.davidson.edu>, for a full job description.

At Davidson College, we believe the college grows stronger by recruiting and retaining a diverse faculty and staff committed to building an inclusive community. In order to achieve and sustain educational excellence, we seek to hire talented faculty and staff across the intersections of diverse races, ethnicities, religions, sexual orientations, gender identities, ages, socio-economic backgrounds, political perspectives, abilities, cultures, and national origin.

BEAM

Bridge to Enter Advanced Mathematics

Summer Positions Available!

Bridge to Enter Advanced Mathematics is a free program for students from low-income and historically marginalized communities who show exceptional potential in mathematics.

This summer, *change the lives of underserved students with exceptional potential in mathematics.*



All students and staff at Union College in Summer 2019

For Summer 2021, we are hiring...

...college professors and classroom teachers as faculty. Design your own courses on favorite math topics. Teach to small classes of motivated middle schoolers.

...graduate students as junior faculty, designing and teaching courses with structured support and mentorship.

...college students as student life counselors and teaching assistants.

COVID-19 Note: We have not yet made a decision about whether we will be running 2021 programs in person or virtually. Please see our website for updates on this and for more information about salary and other compensation.

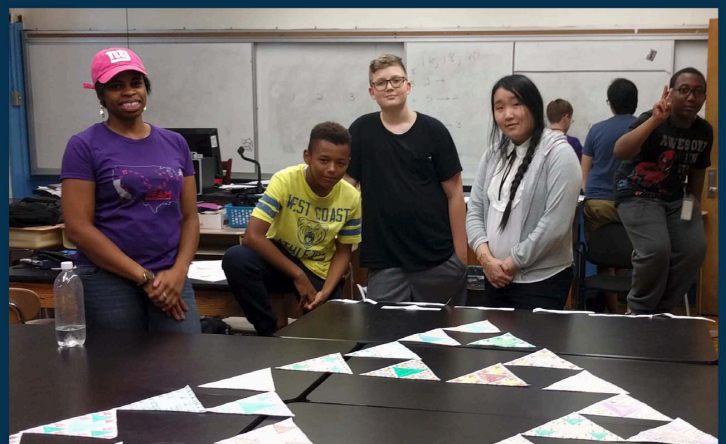
“Teaching at [BEAM] was a great joy, and I highly recommend it as an outreach initiative to get involved in!”



- Professor Mohamed Omar,
Harvey Mudd College

For more information and how to apply:

beammath.org/jobs



Faculty member Evelyn Owhor with students in NYC 2018





MAA Project NExT

NEW EXPERIENCES IN TEACHING

Launch the NExT stage of your career

MAA Project NExT (New Experiences in Teaching) is a year-long professional development program for new(ish) 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(ish) and recent PhDs in postdoctoral, tenure-track, and visiting positions. We particularly encourage applicants from underrepresented groups, including women and minorities. Applications for the 2021 cohort of MAA Project NExT Fellows are due on **April 15, 2021** and can be found at projectnext.maa.org.

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



Application deadline: April 15, 2021
projectnext.maa.org • projectnext@maa.org

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