

**Upcoming
Events****UIUC DS4A/
Empowerment****Application
Deadline
Sept. 25, 2020****MAA Project
NExT****Application
Deadline
Oct. 15, 2020****2020 Field of
Dreams
Conference****Nov. 6-8, 2020****Math Alliance Fall Activities to take place online**

We recently announced that we will not be holding the Field of Dreams Conference in November, as we had originally planned. While there was no other choice, we are determined to make the best of it, and we are looking at this as an opportunity to develop new programming and platforms to serve our community. Some of these new events may become part of our annual calendar. We have committed ourselves to providing support for our community this fall through a series of virtual events. We are still working out the details of these events, as well as the dates during which we will hold them. We'll remark that F-GAP is continuing on its normal schedule, and we will have a full complement of talented students seeking graduate opportunities for the fall of 2021. We expect to have virtual versions of our Graduate Fair (where programs can meet Math Alliance Scholars, and Scholars can learn about graduate opportunities), Career fair (where potential employers can connect with Math Alliance Scholars who have earned graduate degrees), and REU Fair (where Math Alliance Scholars can learn about research opportunities, and REUs can meet Math Alliance Scholars). We are planning for each of these events to take place on their own date, separate from what (as one of our leadership said) people are sure to call "the Virtual Field of Dreams", which we announced recently as well. In case you missed that announcement: **We plan to hold our capstone virtual event on the weekend we had reserved for Field of Dreams.** We are working with our conference host, Institute for Mathematics and its Applications (IMA) at University of Minnesota, to determine the best way to stage all our events. We have not settled all the details, but please save the original conference dates, as we hope to bring all our community together for some part of that weekend.

**Major Virtual Event to take place November 6-8
Details to come!!!**

So, as we head into our fall classes and other academic activities, I hope you will continue to identify and nominate Math alliance Scholars, and F-GAP students. And know that we are working hard to keep as many of our important activities on track as possible this year. We hope you all stay safe and we look forward to seeing you at the virtual events!!

Thoughts from the Director...



David Goldberg
Executive Director
of the
Math Alliance

We are seeing everyone ramp up for their fall, and we are hoping that, whatever our colleagues are doing to continue their teaching and other work this fall, it is successful and we stay healthy and safe. I, for one, have not felt this much uncertainty about my teaching since maybe my first semester of teaching as a graduate student. As we announced recently, we will not be holding an in-person Field of Dreams Conference this fall. As painful as this is, there was obviously no other choice. We are planning extensive virtual programming in the fall, and stay tuned for more details. We've had a very busy summer, as have all of you, I am sure, both trying to figure out how to keep our work going in the current environment, but also to try to build new projects and partners. I want to talk about that here, but I hope you won't mind if I wait a bit on all that.

I know I often use this space to discuss my perspective on current events, and I know I sometimes grind my own axes here. I hope you'll indulge my choice to write something very personal, which goes even beyond those things. I know I have told a bit of this story at several Field of Dreams and regional alliance conferences, but I want to tell a bit more now. I struggled quite a bit with mathematics in 7th and 8th grade. While I was in advanced classes, the material wasn't really landing home, and frankly, a lot of the time I had no idea what I was doing. In 8th grade I was taking an Algebra I class. There were lots of reasons for my difficulties, but chief among them was my inability to do word problems. I knew I just needed to find the correct formulaic approach to these problems, because in my mind, there was a formula for everything in the mathematical realm. My 8th grade teacher told me I should get a D, or worse, but he would give me a C, because I tried hard. He knew I was going on to the Cambridge Pilot School, a public alternative school, and said if I told them that he had taught me, they wouldn't make me take the course again. He said I would "do okay" in geometry, and then, he said, I would never have to worry about math again. I knew that was wrong, it made me very angry, and I knew I was going to have to take the course again. I had no idea this how strongly this would impact my life.

In 9th grade I retook the class from one of two Pilot School math teachers, Maurice Page. Maurice could see my talent for some of the basics, and set me off to work with another student. Whenever we got a little stuck, Maurice was there to help us through. We had some activities as a whole class, and some in these smaller groups. But when we started doing word problems, I started to falter again. I remember Mo came over to talk with me and he quickly saw my issue. He asked if I thought there was a set "universal" formula for word problems, and we just had to extract the specific values, and evaluate the formula with those inputs. I said, I thought there should be, right? He smiled in his engaging and gentle way and said, "You know, you actually have to read the problems." I looked at him a little puzzled, and then he said something to the effect of if there were such a formula, they wouldn't waste time writing all those words. I suddenly understood something that had been bothering me for over a year, and pretty soon I was having so much fun solving word problems, all I wanted to do was find more to solve. My mathematical road forward was anything but smooth, but that moment was probably the most important in helping me become a mathematician.



Maurice Page at Pilot School, c.1978

I mentioned the Pilot School because it plays an important role here. It was started as an experiment in 1969, with the idea that some barriers to success could be broken down by providing the right environment and structure (or lack thereof). In particular, there were four goals and principles, and I'll mention two: Diversity, and Community. That may have been the first time I heard the word "diversity" at all, and definitely it had never meant what it meant here: that the population of the school should reflect the city demographically. And the idea we were a community, that went beyond formal and traditional classroom roles, and we helped each other succeed was novel to me. It was one of the first times I felt that sense of belonging to something outside of myself. The faculty (who we did all call by their first names) had what were called "advising groups", and each student was in one of these groups of about 20. Advising groups served several roles, but underneath it all was an idea which we now would call mentorship. For every student, there was an adult at the school who knew them, knew their personal situation, knew where they were supposed to be, and was available to them. While what we now call diversity can be ascribed to a lot of aspects of my life before and after Pilot School, I do believe it was the intentionality with which it was stated there, and the impact I saw it have, which has been

Thoughts from the Director (continued)...

a major reason diversity has been an important idea for me throughout my adult life.

I enrolled there in 1975, and there were many experiences at Pilot which were formative for me, but no more than my interactions and classes with Maurice, from whom I also took geometry. I have always been in awe of his lesson plans, because they were brilliant, and detailed to the point where he would check his notes to see on what side of the blackboard he wanted to write an idea. Maurice was also a gifted musician, and singer, and organized a vocal group (the Music Module) my first year. It was part of an idea to have modules that would meet once a week for two hours and focus on some topic or activity. The module concept did not survive the first year, but the Music Module kept going for all my years and beyond. That was emblematic of Pilot School -- ideas were tried, and refined constantly. Music Module's repertoire would be called eclectic, for sure, but what Mo loved, and our group thrived on was harmony. It was a source of great joy, and among other things it is the reason I know more verses to Christmas carols than most people I know. There are also songs I probably would never have liked if Maurice hadn't brought them to us -- I knew them, but I didn't see what he saw, which was always focused on harmony. (I still don't know what any one sentence of the lyrics to "Ventura Highway" means, however.)

Mo's passion for his craft, his mathematical talent, and his ability to explain complex mathematical concepts to us inspired me, and I saw he never gave up on a student. We were told we could succeed in general, but in that classroom the message was that math could be understood and appreciated, and when I graduated, I knew what I wanted to become was a high school math teacher.

The last time I saw Mo in person was in 1989, at the 20th anniversary of the Pilot School. I was in graduate school at the time, and he called me "a big math dude" which I still find pretty funny. I reminded him that he had pulled me out of two straight years of frustration with math, and if that hadn't happened, I probably would not have been interested in math at all. Not surprisingly he had no memory of that, and had a hard time believing it happened. But, whenever I have success in helping a student understand an idea that they have been having trouble with, I see the image of Maurice explaining the way to succeed, go faster, and do better was to slow down, and actually read the words. What I remember most about that 20th anniversary was how many of us were pursuing the things we dreamed of as students. That was what the place did -- it nurtured our dreams, and supported us with that sense of community.

I often head to class with the goal of being half as good as Mo Page would be on his worst day. I don't think I have ever succeeded, but I think I might have come close a couple of times. Last Thanksgiving, my sister brought something she found, which was my Grade and Comment sheet from the spring of my freshman year (at Pilot we didn't just get grades, the faculty wrote extensive qualitative evaluations). Maurice had remarked how easily I mastered the material, which I find ironic, because of the reality. I know I only do what I do today, because Maurice Page took the time, to care and encourage me. [Maurice passed from this world last month](#), and even though we had not spoken in over thirty years, I still felt, and feel, his loss deeply. I have been very fortunate to have a long string of extraordinary people who went very far out of their way to help me succeed, and each shone a light on some aspect of this world that opened up a possibility that wouldn't be there otherwise. It is one reason why I consider myself the luckiest person I know. When I lose one of these mentors, the world seems a little dimmer, with that light gone. Maurice's star shone particularly brightly for me, with his image constantly with me professionally and almost daily musical reminders. So, I may not have noticed that light, because it was everywhere. So, the world seems quite a bit diminished, but I am reminded we are all only here for a moment, and it's what we do with our moment that counts. There are definitely not enough Maurice Pages in the world, because if there were, the Math Alliance would be out of business. I hope we soon see the day that we can seriously think that this organization has finished its work. If we ever do, I know that my small part of it owes a big thanks to Maurice too.

Some Covid-19 Resources

- [AMS Resources & Updates related to COVID-19](#)
- [Free AMS Mathematical Modeling Books and Journals available during COVID-19 pandemic](#)

From ASA Blogs

- [SAS COVID-19 Free Books](#)
- [How can I help during coronavirus crisis](#)
- [COVID-19 Kaggle Competition Announced](#)

Still Accepting 2020-21 F-GAP Nominations!

The Facilitated Graduate Applications Process (F-GAP) is an Alliance program that provides undergraduate Juniors and Master's students with the advice and assistance needed to begin the application process as they apply to graduate programs.



F-GAP will help students choose departments that are most appropriate to their goals and aspirations. The Alliance Community will work with the student as they prepare their applications to graduate programs and will assist in tracking the progress of their applications through the admissions process. The Alliance Community will assist in maximizing the chances that Alliance Scholars will be admitted, with support, to a department or program where they will thrive. We will pair each eligible student with one of our Doctoral Alliance Mentors who will work with the students local mentor to create a mentoring team that will aid in the application process.

If you know of a student who will be applying to graduate programs for Fall 2021 please submit student nominations here: <https://mathalliance.org/2020-fgap-nomination-form/>. As part of this submission, you will be asked to check a box stating that you have read the document, [“Selecting students for the F-GAP program: FAQs.”](#))



SEPTEMBER

[Letters to the Editor](#), including one from William Vélez*

[A word from...](#), Stephan Ramon Garcia*;

[Parabolic Implosion](#), by Han Peters and Liz Vivas*

In Early Career, [How Do I...Develop an Online Research Seminar?](#), by Henry Adams*

[2020 Lathisms: Latinxs and Hispanics in the Mathematical Sciences](#), by Pamela Harris*, Alicia Prieto Langarica, Vanessa Rivera Quiñones+, Luis Sordo Vieira, Rosaura Uscanga, and Andrés R. Vindas Meléndez+, featuring Javier Alejandro Chávez-Domínguez*, Jessica Deshler*, Alexander Diaz-Lopez+, Matilde Lalin, and Virginia Naibo

[The Impact Trump's Proposed 2021 NSF Budget Would Have on Mathematics](#), by Karen Saxe*

[AMS Elections Ballot](#) See our other note about our Math Alliance Community members running for elected offices

[Report on the 2017–2018 New Doctorate Recipients](#)

[Report on the 2017–2018 Employment Experiences of the New Doctoral Recipients](#)

[Doctoral Degrees Conferred 2018–2019](#)

*Math Alliance Mentor

+Math Alliance Scholar

Items of interest in AMSTATNEWS

AUGUST

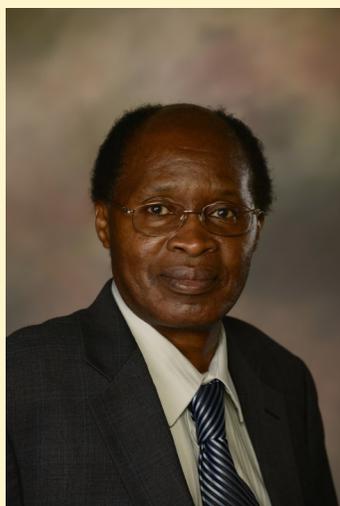
SDSS 2020: Different, but (Mostly) Good, by David Hunter*

Math Alliance Mentors Win Awards

Math Alliance Mentors Overton Jenda and Cristina Villalobos receive 2020 PAESMEM Awards.

Overton Jenda of Auburn University and Cristina Villalobos of University of Texas Río Grande Valley, were two of twelve individuals recognized with the 2020 Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring ([PAESMEM](#)) award.

Mathematical Sciences Research Institute, a Math Alliance Affiliate, received a PAESMEM as an organization. The PAESMEM award is the highest award for STEM mentoring in the United States, and Professors Jenda and Villalobos, and MSRI become our latest Math Alliance Mentors and Math Alliance Affiliate to win this prestigious award!!! Congratulations!



Overton Jenda
Mathematics and Statistics
Professor and Assistant
Provost for Special Projects and Initiatives
Auburn University



Cristina Villalobos
School of Mathematical and
Statistical Sciences
Founding Director of the Center of
Excellence in STEM Education
University of Texas Rio Grande Valley

MSRI



Mathematical Sciences Research Institute

Pacific Math Alliance Holds First Conference

On Saturday, October 12th the Pacific Math Alliance held their first ever student and faculty conference at California State University, East Bay. The event brought together nearly 200 individuals from the entire Pacific Region, including California, Washington, Oregon, and Alaska. Among the conference's several goals, it ultimately aimed to create awareness of the PMA, its mission, and its members therein who are dedicated to the mentoring of students in the Pacific region. After welcoming remarks, It was only fitting to kick-off the conference with an informative and motivational talk about the National Math Alliance given by its former director, Dr. Phli Kutzko. Phil highlighted the stories of exceptionally successful National Alliance Alumni, some of whom were in the audience. For student participants, the real-life examples attested to the opportunities they have to shape their own mathematical journeys and set the stage for a fruitful conference.

After the first plenary talk, students participated in a Graduate School Applications and Fellowship Workshop led by Dr. Colette Patt, Assistant Dean for Diversity, Equity, and Inclusion in the Mathematical & Physical Sciences Division, at the University of California, Berkeley. This workshop emphasized how participants can highlight their unique experiences as an underrepresented minority or first-generation college student in mathematics. The workshop was followed by a Professional Panel on Academic and Industry Careers. Representatives from Lawrence Berkeley National Laboratory, IBM, Acumen, and Udacity answered questions about industry and government career options for mathematicians.

During the student workshops, faculty engaged in professional development centered around effective mentoring practices for underrepresented students. The first activity was a panel of graduate students and recent PhDs on effective mentoring practices from the perspective of a mentee. Serving on the panel was Theo McKenzie (UC Berkeley graduate student), Anastasia Chavez (UC Davis postdoc), and Roberto Hernandez (CSU Fullerton undergraduate) who spoke about faculty/mentor practices that made a positive impact in their preparation for and experiences in graduate school. Following the panel was a workshop on reprogramming the mindset of faculty who have misconceptions about the struggles of underrepresented students. Dr. Erica N. Walker, Professor of Mathematics Education and Director for Urban and Minority Education, Teachers College, Columbia University ran the workshop. Dr. Walker discussed data that supports the need for a paradigm shift with minority students in mind.

Along with workshops and panels, the conference provided students and faculty with a venue where they can present their work to a welcoming and supportive audience. The conference featured 20 student talks from 14 different campuses including community colleges, 4 year undergraduate serving institutions, and PhD granting institutions. The faculty session featured research talks on socio-cultural issues related to mathematics. Faculty from a range of institutions including community colleges, public 4-year undergraduate serving institutions, and liberal arts colleges came together to give 10 talks during this session.

Students and faculty came together to close the day with the second plenary speaker, Pomona College Professor of Mathematics Dr. Edray Goins. Edray used clocks and parking garages to illustrate the concept of monodromy which lies in the intersection of Number Theory and Algebra.

As participants parted ways, the organizers hoped that they left with newfound connections that will become the foundational network of the Pacific Math Alliance. If you would like more information about the Pacific Math Alliance, please visit pacificmathalliance.org.

[Pictures from the conference](#)

Article Written By: Prof. Jessica De Silva at California State University, Stanislaus

2021 SIAM PRIZES – ACCEPTING NOMINATIONS!

We are accepting nominations for the SIAM prizes that will be awarded in 2021. Tell us about a colleague who should be honored for their recent contributions to advances in applied mathematics and computational sciences. If you know someone who meets the criteria for one of the SIAM prizes below and deserves to be recognized for their achievements, **nominate them by OCTOBER 15, 2020.**

[Submit Your Nomination](#)

We particularly encourage nominations that reflect the increasing diversity of our profession. We rely on our community to keep us informed about recent contributions, and selection committees require at least three nominations to award a given prize. Your nomination counts!

2021 SIAM Prizes Now Accepting Nominations:

[Germund Dahlquist Prize](#)

[Ralph E. Kleinman Prize](#)

[George Pólya Prize in Applied Combinatorics](#)

[George Pólya Prize for Mathematical Exposition](#)

[W. T. and Idalia Reid Prize](#)

[George B. Dantzig Prize](#)

[Lagrange Prize in Continuous Optimization](#)

SIAM awards more than 50 prizes. Learn more about our prize program and [view all prizes with open calls](#). Contact prizeadmin@siam.org with questions regarding nomination procedure.



Prize Program

3600 Market Street - 6th Floor
Philadelphia, PA 19104

prizeadmin@siam.org / www.siam.org/Prizes-Recognition

SISG Scholarships Available

The Summer Institute in Statistical Genetics (SISG) has received NSF funding for scholarships for US graduate students. The goal of SISG is to strengthen the statistical and genetic proficiency and career preparation of scholars from all backgrounds, especially those from groups historically underrepresented in STEM such as racial and ethnic minority groups, low income, first generation college students, veterans, and differently abled and 2SLGBTQ groups. For 2021 the scholarships will provide registration, travel, housing and meal costs. With the need to be online only in 2020, scholarships will be for registration.

Scholarship applications and details of the 18 modules in SISG are at www.biostat.washington.edu/suminst/sisg. Applicants can choose from basic statistics and genetics courses; population, quantitative and forensic genetics; GWAS and network analysis; Bayesian and compositional data analysis, and several others. Each module will have pre-recorded lecture and interactive Zoom sessions, along with downloadable data and software.

Please send enquiries to sisg@uw.edu.

MSRI Upcoming Programs

MSRI invites applications for Research Professors, Research Members and Postdoctoral Fellows in the following programs:

Universality and Integrability in Random Matrix Theory and Interacting Particle Systems (August 16 - December 17, 2021)

The Analysis and Geometry of Random Spaces (January 18 - May 27, 2022)

Complex Dynamics: from special families to natural generalizations in one and several variables (January 18 - May 27, 2022)

Research Professorships are intended for senior researchers who will be making key contributions to a program, including the mentoring of postdoctoral fellows, and who will be in residence for three or more months. Research Memberships are intended for researchers who will be making contributions to a program and who will be in residence for one or more months. Postdoctoral Fellowships are intended for recent PhDs.

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

Data Science For All / Empowerment Program

Society for the Advancement of Hispanics, Chicanos and Native Americans in Science (SACNAS)
Student Chapter at the University of Illinois at Urbana-Champaign

Email: sacnas.uiuc@gmail.com **Web:** <http://publish.illinois.edu/sacnasuiuc/>
Facebook: <http://www.facebook.com/groups/425287234189847>

Data Science For All / Empowerment is an online program that offers the world's best data analytics training to talented participants from Black, Hispanic, LGBTQ+, and other underrepresented communities.

Data skills are an increasingly important function of every type of job, not just technical ones. Employers are requiring these skills for roles like finance, sales, marketing, and product, among others, as well. Our program teaches the data skills that professionals across all industries and positions need.

The program is taught by world-class instructors from Harvard and connects participants to an amazing peer network and mentors.

DS4A / Empowerment is 100% free for participants, because we want the best talent to participate. The program is funded by corporate sponsors, who target graduates for job opportunities. Past participants of our programs have graduated to work at partner companies like Google, Lyft, Deloitte, JP Morgan, Twitch, Citadel, Memorial Sloan Kettering, and Johnson & Johnson.

correlation-one

EMPOWERMENT

DATA IS POWER. BOOST YOUR DATA SKILLS.

INSTRUCTORS FROM HARVARD UNIVERSITY
LEARN FOR FREE. BUILD YOUR NETWORK.
ACCESS TOP JOBS.

APPLY NOW! APPLY BY SEPTEMBER 25

WHAT IS THE PROGRAM?
DS4A / Empowerment is a free, world-class data skills training and jobs program for under-represented candidates.

Held on Saturdays, starting Oct 24, for 3 months, virtually

HOW TO GET IN?
Open to students and working professionals. College degree & STEM knowledge preferred, but not required. Beginners and advanced will both benefit. Admission is competitive and merit-based.

ABOUT CORRELATION ONE
Correlation One is the market leader in data & analytics training globally.

PAST PARTNERS INCLUDE

APPLY BEFORE SEP 25

IBM | GE | GEORGIA INSTITUTE OF TECHNOLOGY | DELL | TWIG | IBM | GEORGIA INSTITUTE OF TECHNOLOGY

APPLY NOW!



MAA Project NExT

NEW EXPERIENCES IN TEACHING

Launch the NExT stage of your career

The first round of applications for the 2021 cohort of MAA Project NExT has a deadline of **October 15, 2020**. Applications can be found at projectnext.maa.org. New(ish) faculty who are already in full-time teaching positions are strongly encouraged to use this deadline. Decisions will be made by December 1, 2020. Those accepting positions during this academic year (to start Fall 2021) may use the second application deadline of **April 15, 2021**.

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

Recent program sessions have included:

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

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

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

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



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

2021-2022 MEMBERSHIP

IAS

INSTITUTE FOR
ADVANCED STUDY

PROGRAMS

WOMEN & MATHEMATICS

math.ias.edu/wam/2021

SUMMER COLLABORATORS

math.ias.edu/summercollaborators

MEMBERSHIPS

The IAS School of Mathematics welcomes applications from mathematicians and theoretical computer scientists at all career levels, and strongly encourages applications from women, minorities, and mid-career scientists (5-15 years from Ph.D.). Competitive salaries, on-campus housing, and other resources are available for periods of 4-11 months for researchers in all mathematical subject areas. The School supports approximately 40 post-docs per year. In 2021-2022, there will be a special-year program, **h-Principle and Flexibility in Geometry and PDEs**, led by Camillo De Lellis and László Székelyhidi, Jr., Distinguished Visiting Professor; however, Membership will not be limited to mathematicians in this field.

**To apply, submit your application
at mathjobs.org by December 1, 2020.**

For more information, please visit: math.ias.edu

2020 Paul J. Sally, Jr. Midwest Representation Theory Conference

The 2020 Paul J. Sally, Jr. Midwest Representation Theory Conference will be held **October 16 (Friday)–18 (Sunday), 2020**. This virtual conference, which is the 44th Midwest Representation Theory Conference, will focus on recent progress in the theory of representations of groups over local fields as well as connections of this theory to other areas within mathematics, notably number theory and geometry. The conference will feature a sequence of contributed talks, and we encourage you both to apply to give such a talk and to advertise this opportunity to graduate students and colleagues. Please see the conference page at <http://homepage.divms.uiowa.edu/~mkrishna/2020mrtc/>.

Registration is available at <https://forms.gle/zFAnQBnuPGRnKzMr7> until October 14.

Applications for contributed talks can be made at <https://forms.gle/VgRq8m826T1SSmwk7>. We especially encourage early-career participants from the broader Midwest region to apply. Applications will be reviewed on a rolling basis beginning September 7, so please apply in a timely fashion.

We conform with the AMS Policy on a Welcoming Environment (<https://www.ams.org/about-us/governance/policy-statements/welcoming-environment-policy>). In particular, “We strive to ensure that participants enjoy a welcoming environment and seek to foster an atmosphere that encourages the free expression and exchange of ideas. We support equality of opportunity and treatment for all participants, regardless of gender, gender identity or expression, race, color, national or ethnic origin, religion or religious belief, age, marital status, sexual orientation, disabilities, veteran status, or immigration status.”

Please contact the organizers with any questions.

Stephen DeBacker (smdbackr@umich.edu)

Jessica Fintzen (fintzen@umich.edu)

Muthu Krishnamurthy (muthu-krishnamurthy@uiowa.edu)

Loren Spice (l.spice@tcu.edu)

NSA 2021 Internships

The National Security Agency is accepting applications for their 2021 student internships:

Graduate Mathematics Program: <https://apply.intelligencecareers.gov/job-description/1145700>

Director's Summer Program or Cryptanalysis and Signals Analysis Summer Program: <https://apply.intelligencecareers.gov/job-description/1145699>

The application deadline is in October.

MSRI Director Search



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

MSRI is one of the world's preeminent centers for research in the mathematical sciences and has been advancing knowledge through mathematical research since 1982. Located in the hills above the University of California, Berkeley campus, MSRI hosts some 2,000 mathematicians each year, for stays of up to one academic year. MSRI is independent of UC Berkeley but enjoys a close relationship with the mathematics department and the campus at large. To learn more, visit our website at msri.org or watch this introductory film: [Introduction to the Mathematical Sciences Research Institute \(MSRI\)](#).

MSRI also serves the wider community through activities in mathematics education, public outreach and films for general audiences. Through its public outreach programs, MSRI makes mathematics visible and attractive to those outside the field. MSRI is also widely known for its events highlighting the fundamental role played by mathematics in our cultural heritage. It has been supported from its origins by the National Science Foundation, now joined by the National Security Agency, over 100 Academic Sponsor Institutions, by a range of private foundations, and by generous and farsighted individuals.

The incoming director has a unique opportunity to build on these successes and to lead MSRI in the advancement of its multifaceted mission.

[View full position details and apply at msri.org](https://msri.org)

This is a full-time, exempt position with a competitive compensation, benefits package. This position is partially funded through a grant from the National Science Foundation (NSF).



MATH ALLIANCE MEMBER INSTITUTION

Postdoc Position at University of Washington



JOIN OUR TEAM

Scientist I/II – Machine Intelligence

Understanding the brain constitutes one of the foremost scientific challenges we face. An important aspect of understanding cortical function is to connect the anatomical construction of neural networks with the physiological response characteristics as well as the overall computation performed by the circuit. This effort will draw upon techniques and knowledge from machine learning, computer science, and biology.

We seek an exemplary scientist to join our efforts in understanding the cortical basis of computation. The successful candidate will demonstrate a facility with modern machine learning approaches as well as a strong theoretical foundation in statistics and machine learning. The ideal candidate will also have a strong knowledge of neuroscience, both experimental and computational, and reinforcement learning.

The successful candidate will pursue the construction and analysis of anatomically constrained, task-trained artificial neural network models of cortical function, with the aim of understanding the computational strategies and function of cortex. They will perform data analysis on neurophysiological data and work closely with experimentalists to understand our data.

Essential Duties

- Develop and analyze task-trained, anatomically constrained artificial neural network models.
- In close collaboration with experimentalists and other analysts, work as a team member to analyze large-scale neurophysiological activity.
- Contribute scientific ideas based on the analysis results.
- Develop and maintain computational and associated software tools.
- Publish/present findings in peer-reviewed journals and at scientific conferences.
- Maintain clear and accurate communication with supervisor and other team members.
- Communicate effectively and appropriately to the research community inside and outside the organization.

Required Education and Experience

- PhD degree in Computer Science, Computational Neuroscience, or related discipline.
- 0-2 years of post-doctoral experience.
- Strong computational/data analysis skills; ideally programming in Python.
- Familiarity with PyTorch or TensorFlow.
- Track record of scientific excellence and independent thinking.

Preferred Education and Experience

- Excited about team science and open science.
- Ability to meet aggressive timelines and deliverables in a collaborative environment.
- Excellent written and verbal communication skills.
- Experience in systems neuroscience (especially *in vivo* neural measurements and/or sensory neuroscience).
- Excellent organizational skills and attention to detail.

For more information or to apply, please visit:

<https://alleninstitute.org/what-we-do/brain-science/careers/job-search/>



MATH ALLIANCE MEMBER INSTITUTION

Postdoc Fellowship at University of Washington

The University of Washington Computational Neuroscience Center is seeking applications for a Postdoctoral Fellowship at the Swartz Center for Theoretical Neuroscience. The fellow will join the vibrant, collaborative UW theoretical neuroscience community. This fellowship provides the unique opportunity to work with any of the CNC's faculty members, with the freedom to design and develop projects and new collaborations.

Participating faculty members' research includes theory, computation and data analysis, and members interact extensively with colleagues in quantitative experimentation. Experimental work available for close collaboration at UW includes groups performing large-scale recording (electrophysiology, imaging) and neural manipulation (optogenetics) in diverse behavioral tasks. Collaborations with the Allen Institute for Brain Science are also possible.

The Fellowship is available with a starting date in fall 2020, and applications will be considered on a rolling basis until the positions are filled. The fellow will be able to work remotely. To apply please send your CV, a 1-2 page summary of research accomplishments, and a 1-2 page statement of research interests, to cncadmin@uw.edu, please arrange to have 3 letters of reference sent to the same email address.

Please address any questions or inquiries to cncadmin@uw.edu as well!