

MATH ALLIANCE STATISTICS INITIATIVE GATHERING FOR FACULTY

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- ***Introductions***
- ***What is the Math Alliance and how can it help you?***
- ***Tips for recruiting and retention***
- ***Questions, comments, concerns***

WHAT IS THE MATH ALLIANCE?

WWW.MATHALLIANCE.ORG



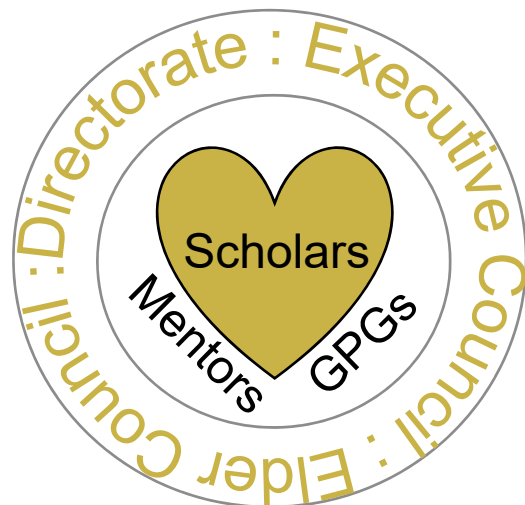
National Alliance for Doctoral Studies in the Mathematical Sciences

A community of people connected by their commitment to:

1. increase the number of doctoral degrees in the mathematical sciences among groups that have been traditionally underrepresented in those fields;
2. improve placement of students from these groups in doctoral programs in disciplines that recruit undergraduate mathematics majors;
3. increase the number of PhDs from these groups who enter the professoriate in the mathematical sciences as well as other appropriate professions;
4. increase funded research collaborations between faculty members at the universities with mathematical sciences doctoral programs and faculty members at colleges and universities focused on undergraduate students;
5. foster the growth of a community of mathematical scientists that promotes a diverse workforce.

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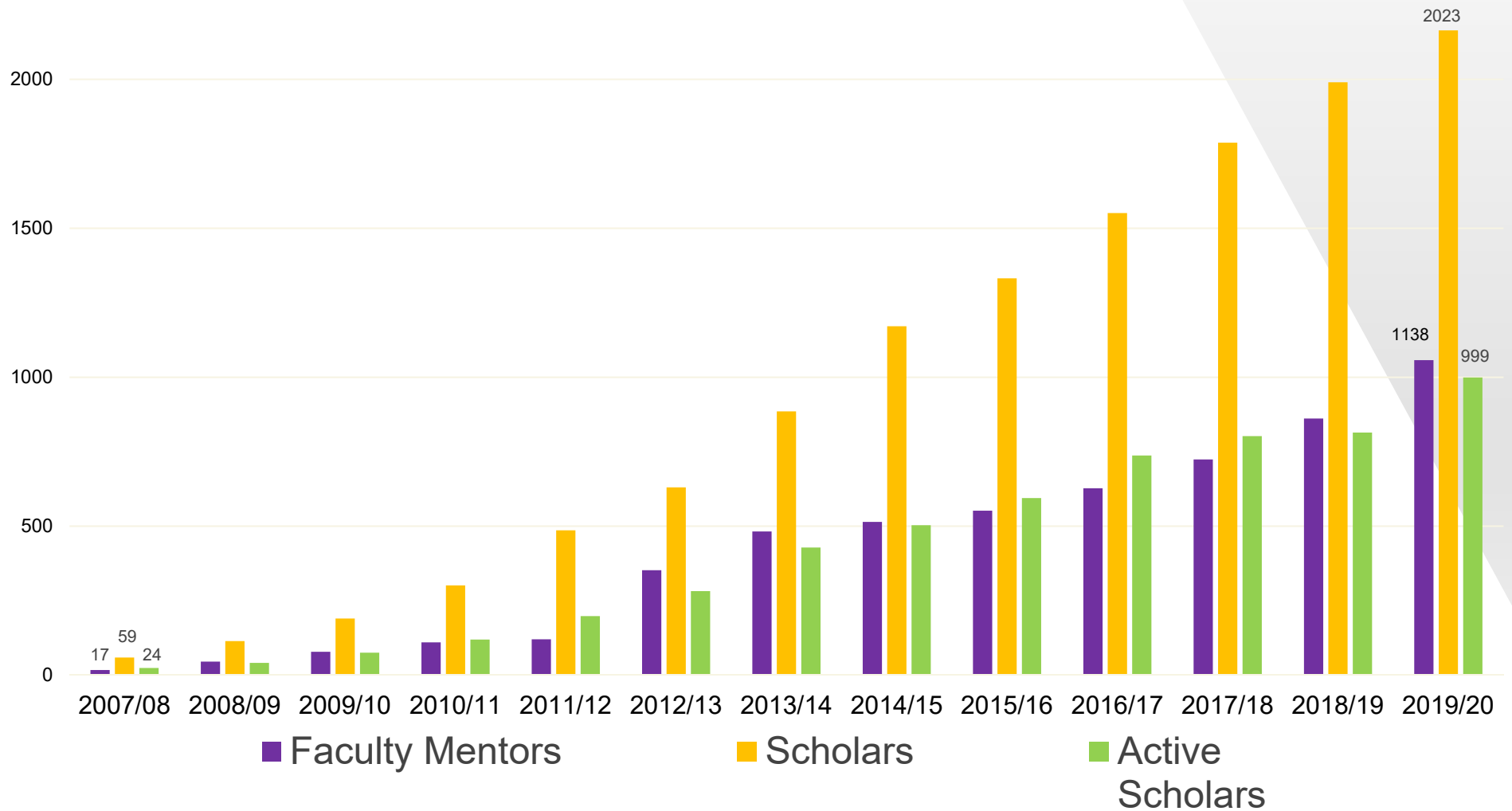
Scholars

- About 80% are URM
- Predoctoral (undergraduate, masters)
 - Nominated by Predoctoral Mentors
- Doctoral
 - Predoctoral Scholars who enroll in doctoral programs
 - PhD students nominated by Mentors or who attend the Field of Dreams Conference
- F-GAP: Facilitated Graduate Admissions Process
- BAMB - Using MS programs as bridge to PhD
 - Pilot running at three CSU campuses, NSF

Benefits

- Mentoring, for graduate school & career
- Attendance to Field of Dreams Conference
- Career, REU/Internship, and Graduate School Fairs

Growth of Math Alliance Mentoring Community



- Facilitated Graduate Admissions Process (F-GAP)
 - Provides transitional support for our Scholars between undergraduate and graduate programs, by providing mentoring from doctoral faculty
 - Match students in junior year (or MS students a year from graduation) early in the calendar year with doctoral mentor
 - Over 500 F-GAP students have enrolled in grad programs since 2014





- Field of Dreams Conference

400 participants including:

200 predoctoral scholars

100 in F-GAP, 70-80% URM

- Community building
- Professional development
- Graduate school awareness

Graduate School, REU, and Career Fairs:

- 60-75 programs and other exhibitors
- Opportunities for students in many quantitatively intense fields
- Math, Statistics, Agronomy, Biostatistics, Testing and Measurement, Engineering, Economics, Business,...

- Regional Alliance Conferences



Building a New American Community in the
Mathematical and Statistical Sciences

MATH ALLIANCE SUCCESS

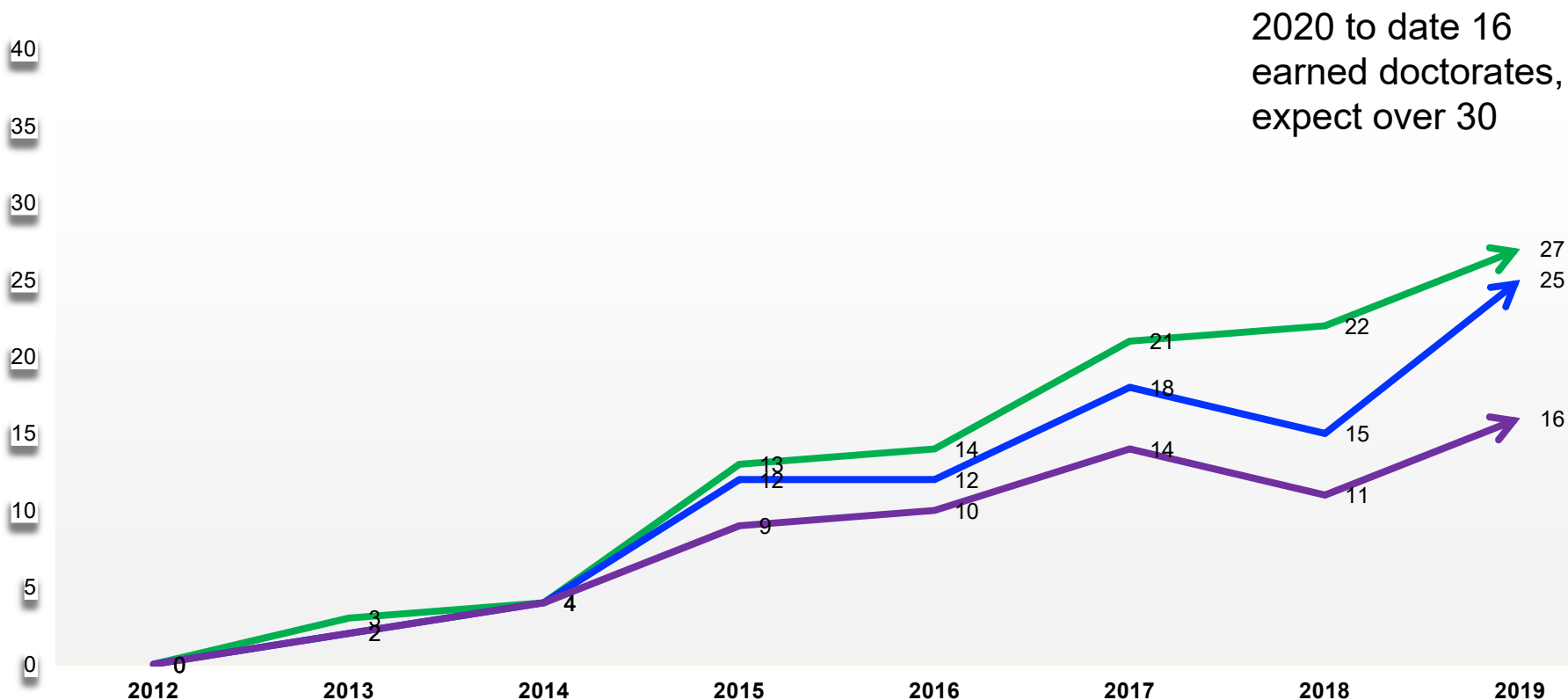


	All Alliance Scholars	Alliance Predoctoral Scholars
Doctorates	172 (123 URM*, 72%)	121 (90 URM, 74%)
Faculty	46 (35 URM, 83%)	31 (24 URM, 84%)
Postdocs	42 (27 URM, 76%)	27 (21 URM, 78%)

* In each group 8-14% did not self-identify ethnicity

	Total	Entered Grad School	MS Earned	PhD Earned	Current MS student	Current PhD student
F-GAP <began 2013-14>	679 (521, 77%)	530 (313, 72%)	131 (108, 82%)	7 (4, 57%)	105 (86, 82%)	222 (147, 66%)

Math Alliance Predoctoral Scholars Earned Doctorates by Calendar Year

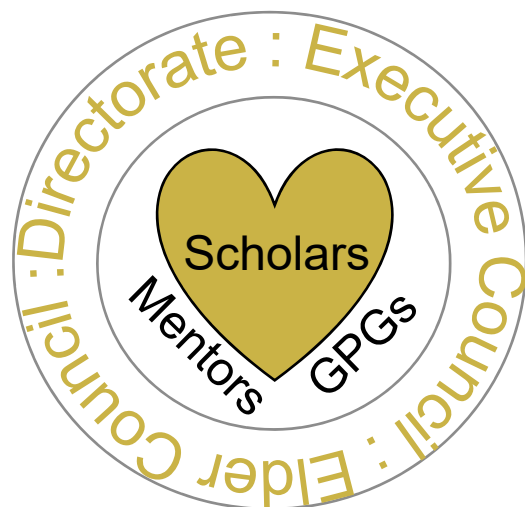


2020 to date 16 earned doctorates, expect over 30

- ➔ Predoctoral Alliance scholars earning a PhD in any field
- ➔ Predoctoral Alliance scholars with a PhD in a Math Science
- ➔ Predoctoral Alliance URM scholars with a PhD in Math Science

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Mentors

- Over 1,100 faculty at over 360 campuses
- Nominate (& bring) students to Field of Dreams Conf
- ***How to build cultural competence in our mentors?***
- Predoctoral
 - Nominate & advise Predoctoral Scholars
 - Nominate mentees for F-GAP and other programs
- Doctoral
 - Advise Predoctoral Scholars
 - Guide F-GAP Mentee
 - Recruit Doctoral Scholars
 - Retain Doctoral Scholars
 - Graduate Doctoral Scholars

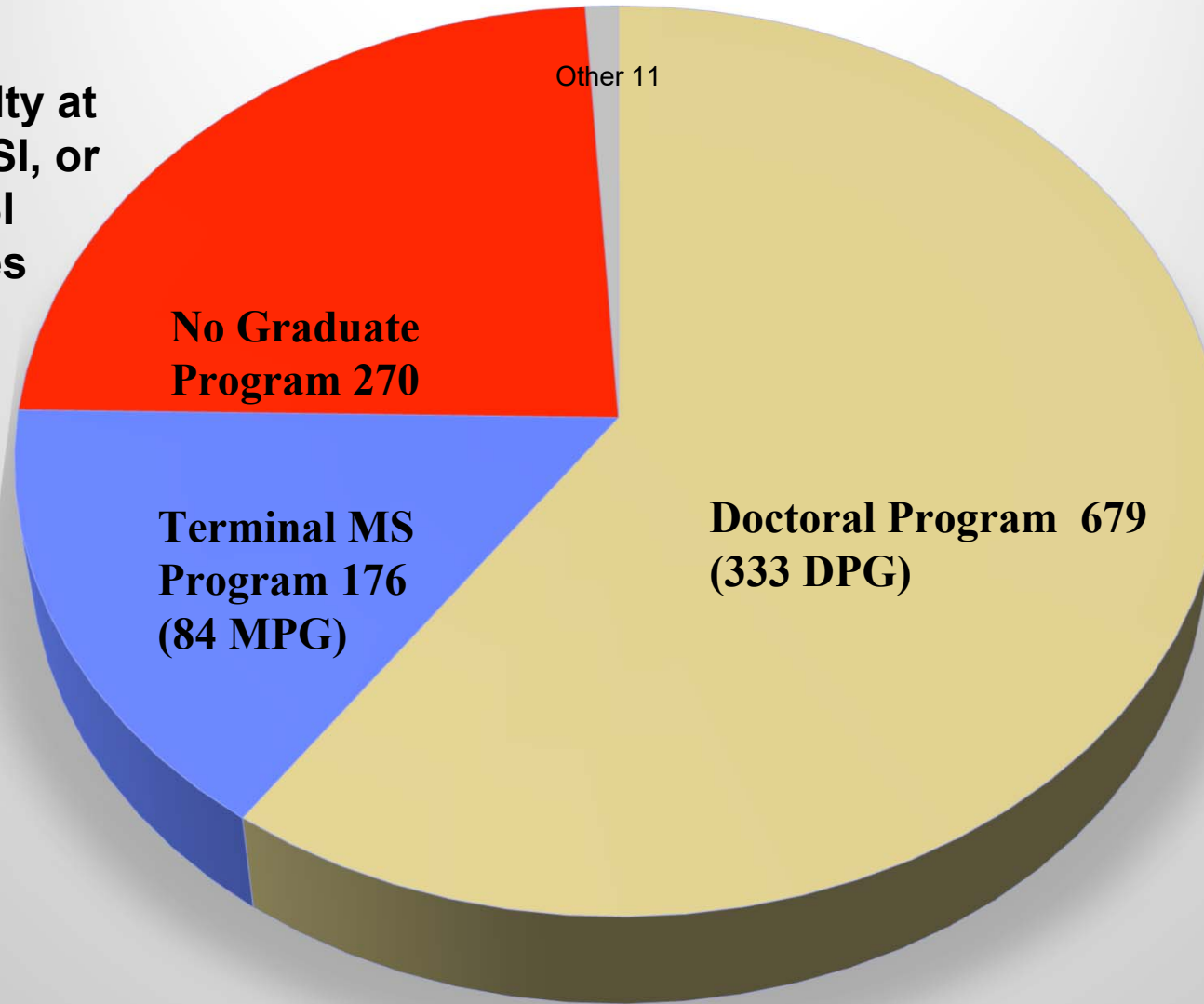
Benefits

- Access to highly motivated & talented students
- Preferred access to: Field of Dreams Conference, and to Career, REU/Internship, and Graduate School Fairs

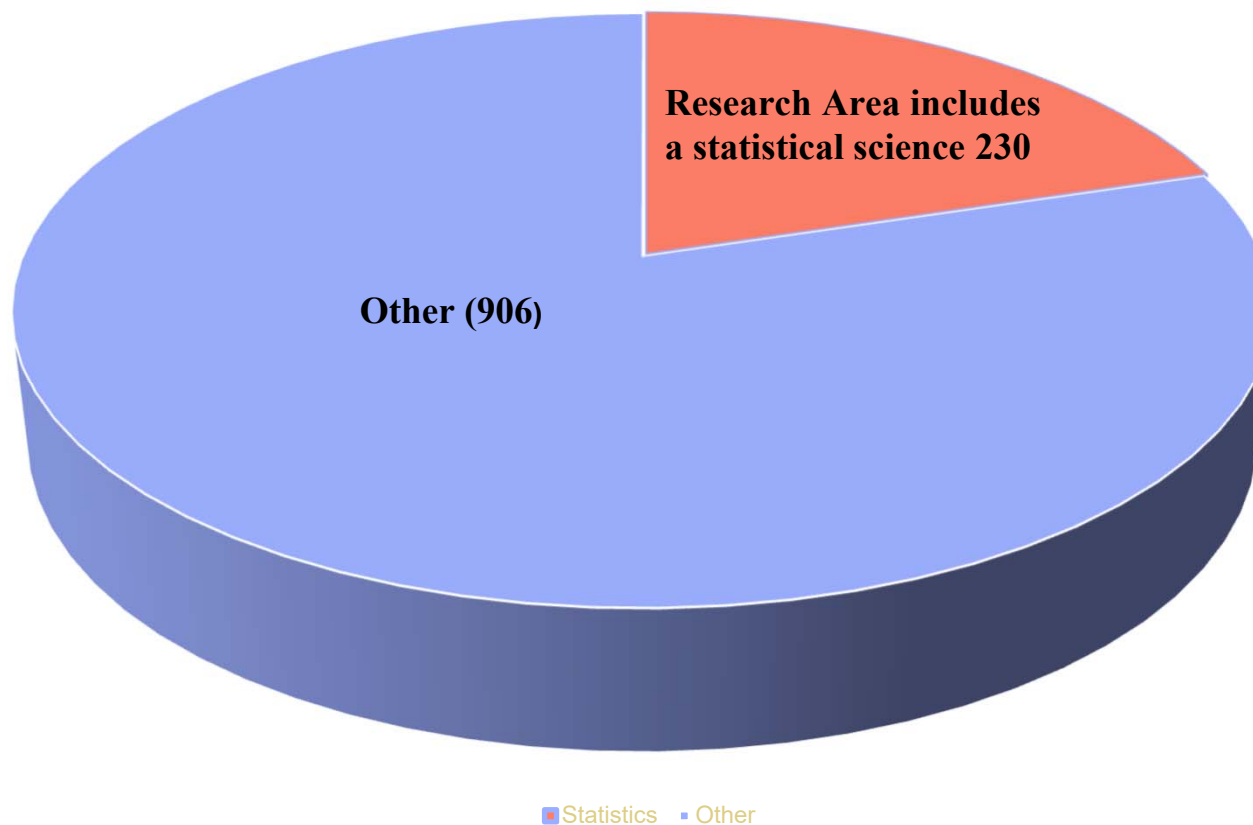
WHERE OUR MENTORS COME FROM



**305 Faculty at
HBCU, HSI, or
AANAPISI
Campuses**



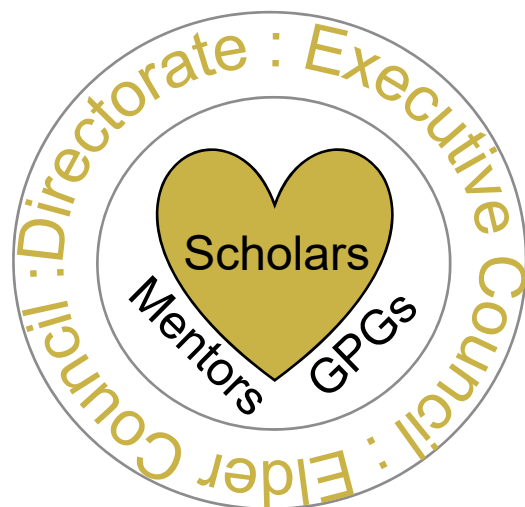
MENTORS BY RESEARCH AREA



Statistical Science faculty in doctoral programs: 160

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GPG: Graduate Program Group

- Offer master's degree (MPG), *currently 11*
- Offer doctoral degree (DPG), *currently 41*
- Application requires:
 - Commitment to Math Alliance goals
 - 10+% of faculty serve as Mentors (with leadership support)
 - Recruitment plan
 - Retention plan
 - Mentoring plan
 - Supportive environment
- ***Status reviewed regularly***

Benefits

- Prominent list on website
- Students know programs have been “vetted”
- Preferred access to: Field of Dreams Conference, and to Career, REU, and Graduate School Fairs

UPCOMING EVENTS

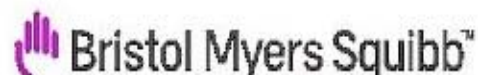


- October 17: Taking Our Place in Graduate School
 - Nominate your students
 - Serve as a discussion leader
 - *Free*
- October 24: Graduate School Fair & REU/Internship Fair
 - Virtual office platform Sococo will simulate movement in a floorplan by avatars
 - Graduate programs & REU programs will host rooms where they can meet students
 - *Exhibitors at this year's fairs (including Career Fair in November) must be a **Center Member (more on next slide)***
 - **Silver** \$1,800; **Gold** \$3,600
 - *Virtual Fair Memberships (**Graduate** \$1,000; **REU/Internship** \$500; **Career** \$1,500)*
- November 6 & 7: Virtual Field of Dreams
 - About 3 hours of programming on each day
 - Career Fair attended by Math Alliance Scholars with Graduate Degrees
 - Nominate your students
 - *Free*



Building a New American Community in the
Mathematical and Statistical Sciences

COLLABORATIVE EVENT



Day in the Life of an Industry Statistician

Want to learn more about math and statistics related career opportunities in the biopharmaceutical industry?

Please join us at our co-sponsored [Bristol Myers Squibb](#) (BMS) and [Math Alliance](#) virtual panel, set for **the 23rd of October from 10 AM – 12 PM EST** - life of an industry statistician.

In this virtual session, you will have the opportunity to:

- Learn about the biopharmaceutical industry and drug development process
- Understand how to get started in the biopharmaceutical industry, including internship opportunities
- Hear from various levels of BMS biostatisticians on what a typical day in the life looks like
- Participate in an open Q&A panel discussion

This panel will bring together various levels from BMS including leadership roles

You will get an email about this soon!

CENTER MEMBERSHIP



Benefits include:

- Names and academic information about Scholars
 - Particularly helpful for recruiting efforts
 - Scholars can be sorted by interest in statistics/biostatistics/data science
- Room at the Graduate School Fair (Gold members can have multiple programs)
- Room at the REU/Internship Fair
- Prominent display on the website and on material at all Conferences
- Room at the Career Fair (Nov. 6)
- Free advertising in Math Alliance Newsletter (usually \$200/ad/month)
- Roles:
 - Member – advise Math Alliance through Partners and Members Committee
 - Partner – advise the Math Alliance on matters of policy and initiatives, invited to Executive Council Meetings

Cost, for 2020-2021 academic year:

- Gold Member \$4,000/year (discounted to \$3,600 for 2021)
- Silver Member \$2,000/year (discounted to \$1,800 for 2021)
- Partnerships are negotiated to fit the institution ~ \$30,000/year

TIPS FOR RECRUITING & RETENTION



Develop a long-term strategy

- Best practices are regularly shared at the Field of Dreams Conference

RETENTION

- Meet at least once per semester to discuss progress of students
 - Where are the hurdles in your program?
 - Are you assessing students effectively (incoming, ongoing)?
 - Are mentor-student matches being made appropriately?
 - Is a change needed?
- Develop strong mentoring plans for students
 - Frequent one-on-one meetings with students, esp. during their first year
- Design an advising network, with accountability and rewards
 - Faculty mentors
 - Peer mentors (avoid burdens on URM students)
 - Mentors commit to developing cultural competence
 - Implicit bias
 - Microaggressions
 - Stereotype threat
 - Intersectionality

TIPS FOR RECRUITING & RETENTION



RECRUITING

- Connect with undergraduates early, and groom them
- Create relationships with undergraduate mentors, to create pipelines
- Strong representation at Math Alliance Graduate School Fair
 - Students
 - Junior faculty
 - Senior faculty
 - Math Alliance Alumni
- Send faculty to additional events to identify strong predoctoral students
 - StatFest
 - NAM Mathfest
 - Latinx conference at IPAM (biannual)
 - Blackwell-Tapia Conference
 - SACNAS
- Proactively work with colleagues to identify their best prospects
 - Reach out to students with a personal touch
- Set goals. Assess performance

QUESTIONS?

COMMENTS?

CONCERNS?