

DAVID GOLDBERG

EDUCATION

B.A.	Reed College, Portland, OR	1984
Ph.D.	University of Maryland, College Park	1991
	Dissertation: “Reducibility of Induced Representations for Classical p -adic Groups”	

VITA:

Citizenship: USA

PROFESSIONAL EXPERIENCE

March 2016 – September 2025: Executive Director, National Alliance for Doctoral Studies in the Mathematical Sciences (Math Alliance); Responsible for all aspects of day-to-day operation of this national faculty based mentoring community, carrying out policy as determined by the Executive Council. Responsible for managing all financial aspects of running the organization, fundraising, activity planning, recruiting new faculty mentors, presenting reports and giving talks about the Math Alliance and its activities to a wide range of audiences including faculty, students, university administrators, potential partners, professional societies, math science institutes, and corporate interests. The organization has grown in size and scope under my leadership, and has been recognized for its contributions to broadening participation in the mathematical and statistical sciences, including the 2017 American Mathematical Society Programs that Make a Difference Award, and its nomination for the 2024 Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring (PAESMEM). Largely for this work I was awarded the 2025 MAA T. Christine Stevens Award for Leadership Development.

March 2017 – May 2025, Executive Director, Center for the National Math Sciences Alliance; In order to provide an administrative structure and a sustainable funding model for the Math Alliance, we created a center in the College of Science at Purdue University to support its work, and allow various entities to participate in the administrative and programmatic processes. This Center was supported by partnerships with universities, as well as the American Mathematical Society, American Statistical Association, 3M Company, and Bristol Myers Squibb. The Center carried out all administrative aspects of the Math Alliance. The Center reported to the Dean of the College of Science at Purdue University.

January 2013 – June 2019: Associate Head for Graduate Studies, Department of Mathematics, Purdue University; Within a highly ranked R1 department, assumed responsibility for all aspects of the graduate program. Set goals for transforming the program from one that was majority international students into one which was majority domestic students. Was successful in these endeavors without changing the admissions standards or academic expectations. Succeeded in becoming a Math Alliance Doctoral Program Group and saw significant impact on recruitment, retention and graduation of women and underrepresented minority students. Reported to Head of the Math Department (Prof. Laszlo Lempert until June 2013, then Prof. Greg Buzzard).

August 1991 – present: Faculty member, Purdue University Department of Mathematics; Entered as a postdoctoral Research Assistant Professor, was appointed Assistant Professor in 1994, Associate Professor in 1997, and Professor in 2005. Awarded an NSF Postdoctoral Fellowship, and an NSF

CAREER Grant, and full publication and funding record are described below. Reports to Department Head (currently Prof. Irena Swanson).

Visiting Positions:

Member	Mathematical Sciences Research Institute	1994–95
Visiting Associate Professor	University of Iowa	1998–99
Visiting Professor	University of East Anglia, UK	June–August 2005
Visiting Professor	Boston College	January–August 2006
Visiting Professor	Univ. Blaise Pascal Clermont-Ferrand, France	June 2009

Other Professional Experience:

Actuarial Administrator	Fred. S. James & Co., Portland, OR	1984–86
Teaching Assistant	University of Maryland	1986–89
Research Assistant	University of Maryland	1989–91

PROFESSIONAL MEMBERSHIPS and SERVICE

American Mathematical Society (AMS)
 American Statistical Association (ASA)
 Association for Women in Mathematics (AWM)
 Mathematics Association of America (MAA)
 National Association of Mathematicians (NAM)
 Society for Advancement of Native Americans and Chicanos in Science (SACNAS)
 Society for Industrial and Applied Mathematicians (SIAM)
 Panelist for National Science Foundation Reviews
 Reviewer Mathematical Reviews
 Referee for several research journals

AWARDS

National Science Foundation Postdoctoral Fellow, June 1992–May 1995

National Science Foundation CAREER Award, June 1995–May 1998

Top Ten Teacher in the Purdue University School of Science, Spring 2000

2017 AMS Programs That Make a Difference Award (Math Alliance Executive Director)

Finalist, 2024 Presidential Award for Science, Mathematics, and Engineering Mentoring (PAESMEM, Math Alliance Organizational Award), final awards not yet announced

2025 Mathematics Association of America (MAA) T. Christine Stevens Award for Leadership Development

RESEARCH INTERESTS

Representations of p -adic groups, especially questions of reducibility of induced representations and their connections with number theory and automorphic forms.

PUBLICATIONS

REFEREED

1. *Reducibility of generalized principal series representations of $U(2,2)$ Via Base Change*, Compositio Mathematica, **86**; 245–264, 1993.
2. *Some results on reducibility for unitary groups and local Asai L -functions*, J. reine angew. Math., **448**; 65–95, 1994.
3. *R -groups and elliptic representations for SL_n* , Pacific Journal of Mathematics, **165**; 77–92, 1994.
4. *Reducibility of induced representations for $Sp(2n)$ and $SO(n)$* , American Journal of Mathematics, **116**; 1101–1151, 1994.
5. *R -groups and elliptic representations for unitary groups*, Proceedings of the AMS, **123**; 1267–1276, 1995.
6. *Reducibility for non-connected p -adic Groups with G^0 of prime index*, Canad. J. Math., **47**; 344–363, 1995.
7. (with R.A. Herb) *Some results on the admissible representations of non-connected reductive p -adic groups*, Annales Scientifique, ENS, **30**; 97–146, 1997,
8. *R -groups and elliptic representations for similitude groups*, Math. Annalen, **307**; 569–588, 1997.
9. (with F. Shahidi) *On the tempered spectrum of quasi-split classical groups*, Duke J. Math., **92**(2); 255–294, 1998.
10. (with S. Friedberg) *On local coefficients for nongeneric representations of some classical groups*, Compositio Mathematica, **116**; 133–166, 1999.
11. (with F. Shahidi) *On the tempered spectrum of quasi-split classical Groups II*, Canad. J. Math., **53** (2); 244–277, 2001.
12. (with A. Roche) *Types for SL_n* , Proc. of London Math. Soc., **85** (3); 119–138, 2002.

PUBLICATIONS (CONT.)

13. (with A. Roche) *Hecke algebras for SL_n* , Proc. of London Math. Soc. **90**(3), 87–131, 2005.
14. Reducibility for SU_n and generic elliptic representations, Canad. J. Math, **58**, 344–361, 2006
15. (with P. Kutzko and S. Stevens) *Covers for self-dual supercuspidal representations of the Siegel Levi subgroup of classical p -adic groups*, Int. math. Res. Notices, 2007, no. 22 (31 pages).
16. *On dual R -groups for classical groups*, in “On Certain L -functions; Conference Proceedings on the occasion of Freydoon Shahidi’s 60th Birthday, J. Arthur, J. Cogdell, S. Gelbart, D. Goldberg, D. Ramakrishnan, J.K. Yu (eds), Clay Mathematics Proceedings, **Vol. 13**, (2011) Amer. Math. Soc. pp. 159–186.
17. (co-Editor) On Certain L -functions; Conference Proceedings on the occasion of Freydoon Shahidi’s 60th Birthday, (J. Arthur, J. Cogdell, S. Gelbart, D. Goldberg, D. Ramakrishnan, J.K. Yu eds.) Clay Mathematics Proceedings, **Vol. 13**, Amer. Math. Soc. 2011.
18. (With D. Ban) *R -groups and parameters*, Pac. J. Math **255**; 281–304, 2012.
19. (with F. Shahidi) *On the tempered spectrum of classical groups, III: The odd orthogonal groups*, Forum Mathematicum **26**; 1029–1069, 2014.
20. (with K. Choii) *Transfer of R -groups between p -adic inner forms of SL_n* , Manuscripta Mathematica, **146**; 125–152, 2015.
21. (with D. Ban) *R -groups, elliptic representations and parameters for $GSpin$ groups*, Forum Mathematicum **27**, 3301–3334, 2015.
22. (with K. Choii) *Invariance of R -groups between p -adic inner forms of quasi-split classical groups*, Transactions of AMS, **368**; 1387–1410, 2016.
23. (with D. Szpruch) *Plancherel measures for covers of p -adic SL_2 and SO_3* , Inter. J. Number Theory, **12**, 1907–1926, 2016.
24. (with K. Choii) *Behavior of R -groups for p -adic inner forms of quasi-split special unitary groups*, Bull. Iranian Math. Soc., **43**, (Volume in honor of F. Shahidi), 117–141, 2017.
25. *Local aspects of the Langlands-Shahidi Method, and the theory of R -groups*, in “Prime Numbers and Representation Theory”, (Y. Tian and Y. Ye, eds.) Lect. Series of Mod. Num. Thy, **2**, Science Press, Beijing, China, 2017

PUBLICATIONS (CONT.)

26. (with D. Ban and K. Choiy) *R-groups and multiplicity in restriction for unitary principal series of $GSpin$ and $Spin$* , in “Geometry, Algebra, Number Theory, and their Information technology Applications”, Springer Proceedings in Mathematics and Statistics, Vol. 251, pp. 59–69, (2018), Springer Nature Switzerland, Cham, Switzerland
27. (with D. Ban and K. Choiy) *R-groups for unitary principal series of $Spin$ groups*, J. Number Theory, Vol. 225, pp. 125–150, 2021
28. (with P. Seshaiyer) Mentoring the missing millions, SIAM News, September 2022
29. (with J. Hughes-Oliver, L. McClure, and J. Rojo) JEDI Corner, *The Math Alliance*, AMSTAT News, September, 2023
30. (With D. Ban) Smooth compact induction over p -adic fields, submitted

IN PROGRESS

31. (With P. Kutzko) “The Math Alliance and Building of a National Mentoring Community”,
32. (with K. Choiy) *R-groups for general metaplectic Groups*
33. (with D. Ban and K. Choiy) *R-groups for spin groups*

NON-REFEREED

34. (with Harriet Pollatsek “Interview with David Goldberg” Notices of the American Mathematical Society, **63**, 964–966, 2016
35. (with P. Kutzko) The Math Alliance and Its Roots in the African American Community”, Notices of the American Mathematical Society, **65**, 127–131, 2018
36. (with J. Brown and R. Bañuelos) Johnny L. Houston Lecture Series at Purdue University, National Association of Mathematicians (NAM) quarterly newsletter, March 2023

INVITED ADDRESSES

1. University of Chicago Representation Theory Seminar, October 30, 1991. (1 hour)
2. Second annual p -adic Field of Dreams Conference, University of Iowa, April 3–5, 1992. (1 hour)

INVITED ADDRESSES (CONT.)

3. Colloque: Progrès récents en L-indiscernabilité, CIRM, Marseille, France, May 25–29, 1992.
4. Teoria de Representaciones de Grupos Algebraicos Sobre Cuerpos Locales y Aplicaciones, Universidad Católica de Valparaíso, Chile, July 26–30, and Universidad de Chile a Santiago, Chile August 2–6, 1993. (four 1 hour lectures)
5. Universidad Nacional de Córdoba, Argentina, August 10, 11, and 12, 1993. (90 minutes each)
6. University of Maryland Lie Groups and Representation Theory Seminar, November 18, 1993. (1 hour)
7. Colloque: Représentations des groupes réductifs p -adiques, CIRM, Marseille, France, July 25–29, 1994. (1 hour)
8. California State University, Bakersfield, Department of Mathematics Colloquium, February 14, 1995. (1 hour)
9. Reed College, Department of Mathematics Colloquium, March 2, 1995. (1 hour)
10. University of California, Conference on Lie Groups and Lie Algebras, UC Santa Cruz, April 8–9, 1995. (1 hour)
11. University of California, Berkeley, Lie Groups and Representation Theory Seminar, May 3, 1995 (1 hour)
12. American Mathematical Society Eastern Sectional Meeting (903), Northeastern University, October 7–8, 1995. (20 minutes)
13. Calvin College Department of Mathematics Colloquium, February 8, 1996. (1 hour)
14. University of Toronto Lie Groups Seminar, March 15, 1996. (1 hour)
15. Universidad Nacional de Córdoba, Argentina, December 19, 1996. (1 hour)
16. Segundo Taller Representaciones Latinoamericano de grupos, Universidad Católica de Valparaíso, Chile, January 6–10, 1997 (5 one hour lectures)
17. Boston College Department of Mathematics Colloquium, March 13, 1997. (1 hour)
18. Tercera Taller Latinoamericano de representaciones de grupos, Valparaíso, Chile, January 5–9, 1998. (2 one-hour lectures)

INVITED ADDRESSES (CONT.)

19. American Mathematical Society Central Sectional Meeting, (932), Kansas State University, Manhattan KS, March 27–28, 1998. (30 minutes)
20. Analyse harmonique sur le groupe $\mathrm{Sp}(4)$, CIRM, Marseilles, France, June 15–19, 1998. (1 hour)
21. Cuatera Taller de representaciones de grupos, Universidad Católica de Valparaíso, Chile and Universidad de Valparaíso, January 4–8, 1999. (3 one-hour lectures)
22. Workshop on representations of reductive p -adic groups, Centre de Recherches mathématiques, Université de Montreal, Montreal Canada, May 9–13, 1999. (1 hour)
23. Chicago State University, Jan. 31, 2000. (1 hour)
24. Northeastern Illinois University, Mathematics Colloquium, Feb. 2, 2000. (1 hour)
25. University of Chicago, Representation Theory Seminar, Feb. 3, 2000. (1 hour)
26. Roosevelt University, Chicago, IL, Feb. 4, 2000. (1 hour)
27. Howard University, Undergraduate Mathematics Colloquium, Feb. 22, 2000. (1 hour)
28. University of Maryland, Representation Theory Seminary, Feb. 23, 2000. (1 hour)
29. University of Maryland, Pi Mu Epsilon Society, Feb. 23, 2000. (1 hour)
30. Morgan State University, Department of Mathematics Colloquium, Feb. 24, 2000. (1 hour)
31. Howard University, Department of Mathematics Colloquium, Feb. 25, 2000. (1 hour)
32. Sexto Taller de representaciones de grupos, Valparaiso, Chile, January 8–12, 2001. (4 one-hour lectures)
33. Florida State University, Undergraduate Mathematics Society, February 22, 2001. (1 hour)
34. Florida A&M University, Dept. of Mathematics Colloquium February 23, 2001. (1 hour)
35. Representations of Reductive p -adic groups, Pacific Inst. of Math. Sci., Feb. 20–24, 2002. (1 hour)
36. University of Michigan, Lie Groups Seminar, March 18, 2002. (1 hour)
37. University of Michigan, Undergraduate Seminar, March 19, 2002. (1 hour)

INVITED ADDRESSES (CONT.)

38. University of Minnesota, Automorphic Forms Seminar, April 11, 2002. (1 hour)
39. Recent progress in Langlands functoriality, CIRM, Luminy, France, June 17–28, 2002. (30 minutes)
40. IAS/Park City, Mathematics Institute, Park City, UT, June 30–July 20, 2002. (40 minutes)
41. International Workshop on K-types for p -adic reductive groups, Muenster, Germany, June 9–14, 2003. (1 hour)
42. University of Akron Department of Pure and Applied Mathematics Colloquium, March 9, 2004.
43. American Mathematical Society Central Sectional Meeting (1001), Northwestern University, Evanston, IL, October 22–23, 2004. (20 minutes)
44. University of East Anglia, School of Mathematics, Colloquium, July 14, 2005. (1 hour)
45. Recent Trends in Endoscopy and Representation Theory, Humboldt Universität zu Berlin, Oct. 17–22, 2005. (1 hour)
46. Boston University Algebra Seminar, January 30, 2006. (1 hour)
47. Representation theory of p -adic groups, Kings College, London June 6–8, 2007. (1 hour)
48. On Certain L -functions, West Lafayette, IN July 30–August 3, 2007. (1 hour)
49. Generalizing Theta Correspondences, American Institute of Mathematics, Palo Alto, CA, July 28–August 1, 2008. (2 hours)
50. American Mathematical Society Central Sectional Meeting (1043), Western Michigan University, Kalamazoo, MI, Oct. 17–19, 2008. (20 minutes)
51. University of Chicago Representation Theory Seminar, Chicago, IL Oct. 28, 2008. (1 hour)
52. Université Blaise Pascal, Clermont-Ferrand, France, Department of Mathematics Colloquium, June 9, 2009. (1 hour)
53. Université Blaise Pascal, Clermont-Ferrand, France, Number Theory Seminar, June 18, 2009. (1 hour)
54. Midwest Conference on Automorphic Forms, Representation Theory, and Number Theory, University of Iowa, Iowa City, IA, Oct. 24–24, 2009. (1 hour)

INVITED ADDRESSES (CONT.)

55. University of Oklahoma-Oklahoma State University Joint Automorphic Forms Seminar, Stillwater, OK, December 8, 2010. (2 hours)
56. Karcher Colloquium, University of Oklahoma, Norman OK, December 9, 2010. (1 hour)
57. University of Oklahoma Mathematics Club, Norman, OK, December 10, 2010. (1 hour)
58. Southern Illinois University Department of Mathematics Colloquium, Carbondale, IL, April 14, 2011. (1 hour)
59. Southern Illinois University Automorphic Forms Seminar, Carbondale IL, April 14, 2011. (1 hour)
60. Collaborative Number Theory Seminar at the CUNY Graduate Center, New York, NY, October 19, 2012. (1½ hours)
61. Department of Mathematics Colloquium, Wabash College Crawfordsville, IN, January 15, 2013. (1 hour)
62. Arizona State University, Tempe, Undergraduate Mathematics Club, November 1, 2013. (1 hour)
63. Joint Mathematical Meetings, Baltimore, MD, Jan 15–18, 2014. (20 minutes)
64. Southern Illinois University, Carbondale, IL, Department Colloquium, March 27, 2014. (1 hour)
65. Arizona State University, Tempe, Undergraduate Mathematics Club, November 6, 2014. (1 hour)
66. Institute of Mathematical Sciences, Chinese University of Hong Kong, Hong Kong, March 11–19, 2015. (4 lectures, 5 ½ hours total)
67. Southern University of New Orleans, Undergraduate Mathematics Majors, April 29, 2015. (1 hour)
68. 2015 Workshop in Number Theory, Morningside Center of Mathematics, Chinese Academy of Sciences, July 18–25, 2015. (2 lectures, 1 hour each)
69. Xavier University of New Orleans, Undergraduate Mathematics Club, November 5, 2015. (1 hour)
70. Southern Illinois Mathematics Conference, Carbondale, IL, May 6, 2016. (30 minutes)

INVITED ADDRESSES (CONT.)

71. Conference on Geometry, Algebra, Number Theory, and their Information technology Applications (GANITA), Fields Institute, University of Toronto, Toronto, ON, Canada, June 13–16, 2016. (20 minutes).
72. The Ohio State University Special Colloquium, “Broadening Participation in STEM Through Mentoring: The National Alliance as a Model, April 9, 2017. (1 hour)
73. The Ohio State University Representation Theory Seminar, April 19 2017. (1 hour)
74. The Ohio State University Radical Pi Undergraduate Mathematics Club, April 19, 2017. (1 hour)
75. The Collaborative Number Theory Seminar at the CUNY Graduate Center, New York, NY, May 12, 2017. (1½ hours)
76. NYC Math Sciences Alliance, City College of New York, May 13, 2017. (20 minutes)
77. Jiangsu Normal University Department of Mathematics Colloquium, Xuzhou China, March 12, 2018. (1 hour)
78. Jiangsu Normal University Number Theory Seminar, Xuzhou, China, March 19 & 21, 2018. (2 1-hour lectures)
79. Notre Dame University Representation Theory Seminar, South Bend, IN, September 10, 2018. (1 hour)
80. NYC Math Sciences Alliance Conference, plenary speaker, September 15, 2018. (1 hour)
81. AMS Central Sectional Meeting (1143), Ann Arbor, MI October 20–21, 2018. (45 minutes)
82. Joint Mathematics Meetings Invited Session, “Building Successful Communities in Mathematics”, Baltimore, MD, January 16, 2019. (20 Minutes)
83. Sloan Indigenous Graduate Partnership Workshop, “Strategies to Attract and Support URM Graduate Students”, Purdue University, West Lafayette, IN April 5, 2019. (1 hour)
84. Joint Statistics Meetings, American Statistical Association Board Meeting, Denver, CO July 27, 2019. (30 minutes)
85. Joint Statistics Chairs Meeting, Denver, CO, July 28, 2019. (15 minutes)
86. Arizona State University, Department Colloquium, January 27, 2020. (1 hour)

INVITED ADDRESSES (CONT.)

87. Southern University A&M University, Baton Rouge, LA, Quality Education Program, February 14, 2020. (1 hour)
88. Panelist, PARADIGMS Fall Conference, Diversity in Graduate Mathematical Sciences, November 23, 2020. (1 hour)
89. Pomona PRIME REU Graduate School 101 Panel, July 16, 2021 (2 hours)
90. Emerging Leaders Science Scholars Discussions on Mentoring, August 30, 2021, PURDUE University, West Lafayette, IN (20-minute presentation in a 90-minute session).
91. University of Alabama, Department of Mathematics Colloquium (Virtual), October 14, 2021 (1 hour).
92. Canadian Math Society Equity, Diversity and Inclusion Session, Canadian Winter Meetings, December 5, 2021 (1 hour)
93. Equity Community of Practice, Purdue University, West Lafayette, IN, February 10, 2022, (1 hour).
94. Midwest Representation Theory Conference, March 12, 2022, Ann Arbor, MI, (1 hour)
95. Panel Moderator: “Transforming Graduate Programs”, as part of panel, “The Math Alliance: 15 years of Building a New American Community in the Mathematical and Statistical Sciences”, (Virtual)Joint Mathematics Meetings, Seattle WA, April 7, 2022.
96. Mathematical Sciences Research Institute Panel on Diversity, Equity, and Inclusion, April 14, 2022 (1 hour)
97. Indiana University, Department of Epidemiology and Biostatistics Colloquium, June 30, 2022 (1 hour)
98. Pomona PRIME REU Graduate School 101 Panel, July 15, 2022 (2 hours)
99. Georgia State University Math Path Workshop: Math Alliance Panel July 26, 2022 (90 minutes)
100. MAA MathFest, 2022, Panel, “The Math Alliance: Building a New American Community in the Quantitative Sciences”, Philadelphia, PA (90 minutes)
101. Joint Statistics Meetings, American Statistical Association Board Meeting, Washington, DC August 6, 2022. (30 minutes)

INVITED ADDRESSES (CONT.)

102. American Mathematical Society Mini-Conference on Education, Washington, DC, September 23, 2022 (30 minutes)
103. JMM Panel: Hidden Figures Revealed: Reflections from Research on Black Mathematicians, Joint Mathematics Meetings, Boston MA, January 7, 2023 (90 minutes)
104. Panelist: Conference on Strengthening Community in Research Mathematics, Pomona College, Pomona, CA, February 17–18, 2023 (1 hour)
105. Conference on Strengthening Community in Research Mathematics, Pomona College, Pomona, CA, February 17–18, 2023 (30 minutes)
106. Department of Mathematics Colloquium (Research), University of Kansas, Lawrence, KS, February 27, 2023 (1 hour)
107. Department of Mathematics Colloquium (Math Alliance), University of Kansas, Lawrence, KS, February 28, 2023 (1 hour)
108. Department of Mathematics Colloquium, Alabama A&M University, Huntsville, AL (delivered virtually), March 21, 2023, (1 hour)
109. Department of Mathematics Colloquium, Virginia Tech University, Blacksburg, VA, March 23, 2023 (1 hour) Department of Mathematics Colloquium, Colorado State University, Fort Collins, CO, March 27, 2023 (1 hour)
110. Pomona PRIME REU Graduate School 101 Panel, July 14, 2023 (2 hours)
111. Georgia State University Math Path Workshop: Math Alliance Panel July 20, 2023 (90 minutes)
112. Louis Stokes Center for the Promotion of Academic Careers (LS-PAC) Models, 2023 Diversity in STEM Conference, July 20–22, 2023, New Orleans, LA (1 hour)
113. Panelist “Successful Programs that Support Equity, Diversity, and Inclusion”, Joint Mathematics Meetings, January 3, 2024, (90 minutes)
114. Current state of the Math Alliance, Gulf States Math Alliance Conference, February 25, 2024, Nacogdoches, TX (30 minutes)
115. Texas Southern University Department of Mathematics Seminar, Houston, TX, April 22, 2024 (1 hour)
116. Georgia State Math Path Panel on Math Alliance (Moderator), virtual, August 1, 2024 (90 minutes)

INVITED ADDRESSES (CONT.)

- 117. Joint Statistics Meetings, American Statistical Association Board Meeting, Portland, OR August 3, 2024. (30 minutes)
- 118. University of California, Berkeley, Department of Mathematics Equity and Inclusion Committee, October 21, 2024 (20 minutes)
- 119. Math Alliance Panel, “Fields of Success”, Joint Mathematics Meetings, Seattle, January 8-11, 2025 (90 minutes)
- 120. Auburn University, Department of Mathematics and Statistics Colloquium, May 6, 2026 (1 hour)
- 121. Auburn University, Department of Mathematics and Statistics Presentation, May 7, 2026 (1 hour)

GRANT SUPPORT

- 1. June 1992 – May 1995; NSF Postdoctoral Fellowship, “Reducibility of induced representations for classical p -adic groups,” \$75,000.
- 2. June 1995 – May 1998; NSF Career Grant, “Intertwining operators, R -groups, and automorphic L -functions,” \$55,000.
- 3. August 1, 1998 – July 31, 2001; NSF Grant, “Intertwining operators, Plancherel measures, and automorphic L -functions,” \$79,341.
- 4. April 1, 2002 – March 31, 2003; NSF conference grant, “Recent Progress in Langlands Functoriality,” \$15,000.
- 5. July 1, 2004 – June 30, 2007; NSF Grant, “Extending the Langlands-Shahidi Program to the non-generic spectrum and related topics,” \$120,000.
- 6. June 1, 2007 – December 31, 2007, NSF conference grant, “On Certain L -functions”, \$30,000, also supported by \$8,000 from Clay Mathematics Institute, \$4,000 from Institute for Mathematics and Applications, and \$4,000 from the Number Theory Foundation, and internal Purdue funding.
- 7. August 16, 2010-August 15 2012, Department of Education GAANN Grant, “Increasing U.S. Doctorates in Mathematics”, (Co- Project Director, R. Bañuelos Project Director), \$522,624
- 8. Simons Foundation Collaboration Grants for Mathematicians, “ R -groups and L -functions for quasi-split groups and related problems”, September 1, 2013–August 31, 2018, \$35,000

GRANT SUPPORT (CONT.)

9. NSF Conference Grant: “2014 Midwest Representation Theory Conference in Honor of Rebecca A. Herb’s 65th Birthday and in Memory of Paul J. Sally, Jr. “(co-PI with S. Weinberger, U. Chicago and S. DeBacker, U. Michigan) August 1, 2014–December 31, 2014, \$38,340
10. September 1, 2015– August 31, 2018, U. S. Department of Education, GAANN Grant, “Increasing U.S. Doctorates in Mathematics” (Project Director, G. Buzzard and R. Bañuelos co-PDs), \$885, 834.
11. NSF Conference Grant: “2015 Midwest Representation Theory Conference” (PI, S. Takeda, co-PI), November 1, 2016–October 31, 2017, \$36, 282.
12. NSF Conference Grant: “The 2016 Paul J. Sally, Jr. Midwest Representation Theory Conference”, (co-PI, M. Krishnamurthy PI), October 1, 2017–September 30, 2017, \$13, 880
13. NSF Conference Grant: “2016 Field of Dreams Meeting” (PI, Edray Goins co-PI), December 1, 2016–November 30, 2017, \$30,000.
14. NSF Conference Grant: “2017 Field of Dreams Meeting” (PI, Edray Goins co-PI), September 1, 2017– August 31, 2018, \$49,500
15. NSA, “Field of Dreams Conference 2018 and 2019”, \$50,000, July 1, 2018– June 30, 2020
16. NSF Conference Grant: 2018 Field of Dreams Conference”, \$49,500 September 1, 2018– August 31, 2019
17. NSF Conference Grant: 2019 Field of Dreams Conference”, \$50,000 August 1, 2019–July 31, 2020
18. NSF Conference Grant 2020 and 2021 Field of Dreams: Growing a Diverse Community, \$299,220, July 1, 2020–June 30, 2022 (co-PI, Daniel Spirn, PI)
19. NSF Conference Grant 2020 and 2021 Field of Dreams: Growing a Diverse Community, \$49,984, October 15, 2022–October 13, 2023 (co-PI, Daniel Spirn, PI)
20. 3M Gives General Grant STEM or Skilled Trades, “The Math Alliance”, \$25,000, September 21, 2021–September 20, 2022
21. Alfred P. Sloan Foundation Equitable Pathways Grant, “Establishing a Math Path Program toward Graduate Education in the Quantitative Sciences”, (collaborator, Kyle Frantz PI), \$500,000, (Approximately \$150,000 to the Math Alliance at Purdue) January 1, 2022– December 31, 2024.

GRANT SUPPORT (CONT.)

22. NSA “Field of Dreams, Towards a More Diverse Mathematical Community”, \$49,962, July 1, 2022–June 30, 2024 (co-PI, Dan Spirn PI)
23. NSF Conference Grant, 2022 Field of Dreams Conference, \$50,000, September 1, 2022–August 31, 2023 (co-PI Daniel Spirn PI).
24. 3M Gives General Grant STEM or Skilled Trades, “The Math Alliance”, \$25,000, December 1, 2022–November 30, 2023
25. Bristol Meyers Squibb Grants and Giving, “The Math Alliance”, \$10,000, July 1, 2023–June 30, 2024
26. NSF Conference Grant, Field of Dreams Conference 2023–25, (co-PIs Kyle Frantz, Pamela Harris, Anne Marie Marshall, Shanise Walker), \$450,000, October 1, 2023–September 30, 2026
27. 3M Gives General Grant STEM or Skilled Trades, “The Math Alliance,” \$25,000, December 1, 2023–November 30, 2024
28. NSA Conference Grant, Field of Dreams Conference 2024–25, (co-PIs Pamela Harris, Anne Marie Marshall, Shanise Walker), \$50,000, September 1, 2024–August 31, 2026
29. Bristol Meyers Squibb Grants and Giving, “The Math Alliance”, \$10,000, October 15, 2024–October 14, 2025
30. 3M Gives General Grant STEM or Skilled Trades, “The Math Alliance,” \$25,000, December 1, 2024–November 30, 2025

NON-GRANT FUNDING FOR THE MATH ALLIANCE

The Center for the National Math Sciences Alliance was initiated in May 2017, and concluded its work in May 2025. In addition to the grant funding supporting the Math Alliance (above), the following funds were raised by the Center to support the work of the Math Alliance:

Partnerships: \$736,300, with additional in-kind support from Partners of approximately **\$214,000**.

Memberships: \$801,137 representing 342 Membership fees (between 21 and 58 per year).

Conference Sponsorships: \$198,400

Field of Dreams Conference Registration Fees (2016–24) \$358,874

Total funding generated: \$2,094,711 cash and \$214,000 in in-kind contributions

CONFERENCES ORGANIZED

1. Recent Progress in Langlands functoriality, June 17–28, 2002, CIRM, Luminy, France
2. On Certain L-functions, in honor of Freydoon Shahidi’s 60th birthday, July 30–August 2007, Purdue University, West Lafayette, IN
3. 2014 Midwest Representation Theory Conference in honor of R.A. Herb’s 65th birthday, and in memory of P.J. Sally, Jr., September 5–7, 2014, University of Chicago, Chicago, IL
4. 2015 Paul J. Sally, MO, Jr. Midwest Representation Theory Conference, November 11–13, 2015, University of Missouri, Columbia
5. 2016 Paul J. Sally, Jr. Midwest Representation Theory Conference, October 14–16, 2016, University of Iowa, Iowa City, IA
6. 2016 Field of Dreams Conference, November 4–6, 2016, St. Louis, MO
7. NYC Math Sciences Alliance, May 13, 2017, City College, New York, NY
8. 2017 Paul J. Sally, Jr. Midwest Representation Theory Conference” October 20–22, 2017, Purdue University, West Lafayette, IN
9. 2017 Field of Dreams Conference, November 3–5, 2017, St. Louis, MO
10. AMS Specia Session: “If you Build it They Will Come, presentations by Scholars in the National Alliance for Doctoral Studies in the Mathematical Sciences”, Joint Mathematics Meetings, January 12, 2018, San Diego, CA
11. 2018 Gulf States Math Alliance Conference, February 23–25, 2018, Tulane University, New Orleans, LA
12. 2018 Field of Dreams Conference, November 2–4, 2018, St. Louis, MO
13. AMS Special session, “If you build it, they will come: Presentations by Scholars in the National Alliance for Doctoral Studies in the Mathematical Sciences”, Joint Mathematics Meetings, January 18, 2019, Baltimore, MD
14. Career Paths in the Mathematical Sciences: An IMA/Math Alliance Workshop, Institute for Mathematics and its Applications, University of Minnesota, Minneapolis, MN, June 6–8, 2019

CONFERENCES ORGANIZED (CONT.)

15. Session at Joint Statistical Meetings, “Becoming an Alliance Graduate Program Group”, Denver CO, July 27–August 1, 2019
16. 2019 Field of Dreams Conference, November 15–17, 2019, St. Louis, MO
17. AMS Special session, “If you build it, they will come: Presentations by Scholars in the National Alliance for Doctoral Studies in the Mathematical Sciences”, Joint Mathematics Meetings, January 15, 2020, Denver, CO
18. Career Paths in the Mathematical Sciences: An IMA/Math Alliance Workshop, Institute for Mathematics and its Applications, University of Minnesota, Minneapolis, MN, June 4–6, 2020 (moved to virtual format due to COVID-19)
19. 2020 Field of Dreams Conference, November 6–7, 2020, (Virtual) Institute for Mathematics and its Applications, University of Minnesota, Minneapolis, MN
20. Math Alliance Statistics Initiative, (Virtual), October 7, 2020
21. Taking our Place in Graduate School, (Virtual) October 17, 2020
22. Math Alliance REU/Internship and Graduate Fairs, (Virtual) October 24, 2020
23. AMS Special session, “If you build it, they will come: Presentations by Scholars in the National Alliance for Doctoral Studies in the Mathematical Sciences”, Joint Mathematics Meetings, January 6&7, 2021 Washington, DC (held virtually)
24. Career Paths in the Mathematical Sciences: An IMA/Math Alliance Workshop, Institute for Mathematics and its Applications, University of Minnesota, Minneapolis, MN, June 3–5, 2021 (moved to virtual format due to COVID-19)
25. 2021 Field of Dreams Conference, November 5–6, 2021, Institute for Mathematics and its Applications, a virtual conference
26. Special Session on Recent Developments in Automorphic Forms and Representation Theory of p -adic groups, AMS Central Sectional Meeting, Purdue University, March 26–27, 2022 West Lafayette, IN (moved to virtual)
27. Joint Math Meetings Panel: “The Math Alliance: 15 years of Building a New American Community in the Mathematical and Statistical Sciences”, (Virtual) Joint Mathematics Meetings, April 7 2022, Seattle, WA
28. Special session, “If you build it, they will come: Presentations by Scholars in the National Alliance for Doctoral Studies in the Mathematical Sciences”, (Virtual) Joint Mathematics Meetings, April 8, 2022, Seattle, WA

CONFERENCES ORGANIZED (CONT.)

29. MAA MathFest Panel, “The Math Alliance: Building a New American Community in the Quantitative Sciences”, August 5, 2022 Philadelphia, PA (90 minutes)
30. 2022 Field of Dreams Conference, November 4–6, 2022, IMA, University of Minnesota, Minneapolis, MN
31. AMS Special session, “If you build it, they will come: Presentations by Scholars in the National Alliance for Doctoral Studies in the Mathematical Sciences”, Joint Mathematics Meetings, January 5–6, 2023, Boston MA
32. Joint Mathematics Meetings Panel: Hidden Figures Revealed: Reflections from Research on Black Mathematicians, Joint Mathematics Meetings, January 7, 2023, Boston MA
33. Math Alliance Career Paths Workshop, June 16–17, 2023, IMSI, Chicago, IL
34. Conference for African American Researchers in the Mathematical Scientists, July 6–8, 2023, Purdue University, West Lafayette, IN
35. Statistical Scientists of the Math Alliance: A Focus on Diversity & Recent Graduates, Joint Statistics Meetings, August 5–10, 2023, Toronto, ON Canada, (co-organizer, Jacqueline Hughes-Oliver session chair)
36. 2023 Field of Dreams Conference, November 3–5, 2023, Georgia State University, Atlanta, GA
37. AMS Special Session “Research Presentations by Math Alliance Scholar Doctorates, Joint Mathematics Meetings, January 3–6, 2024, San Francisco, CA
38. Joint Mathematics Meetings Panel “Regional Math Alliances: Activities and Formation of Regional Groups to Support the Goals of the National Math Alliance”, Joint Mathematics Meetings, January 3–6, 2024 San Francisco, CA
39. Unity in Numbers: Fostering an Inclusive Community in the Quantitative Sciences, May 20, 2024, Simons Foundation, New York, NY
40. Math Alliance Career Paths Workshop, June 6–7, 2024 IMSI, Chicago, IL
41. Joint Statistics Meetings Contributed Paper Session: “Building a More Diverse Statistical Future: Recent Graduates from the Math Alliance”, August 3–8, 2024, Portland, OR,
42. 2024 Field of Dreams Conference, November 8–10, 2024 Atlanta, GA
43. AMS Special Session, “Research Presentations by Math Alliance Doctorates”, Joint Mathematics Meetings, January 8–11, 2025 Seattle, WA

CONFERENCES ORGANIZED (CONT.)

- 44. Joint Mathematics Meetings Panel, “Fields of Success”, Joint Mathematics Meetings, January 8–11, 2025, Seattle, WA
- 45. Math Alliance Career Paths Workshop, May 29–30, 2025, IMSI, Chicago, IL
- 46. MAA MathFest Panel “Fields of Success: Math Alliance Scholars Tell their Stories from Undergraduate to Graduate and Beyond”, August 8, 2025, Sacramento, CA
- 47. AMS Special Session, “Research Presentations by Math Alliance Doctorates”, Joint Mathematics Meetings, January 4 – 5, 2026, Washington, DC.

DEPARTMENTAL SERVICE

Computer Committee, 1995–99, 2002–2014
 Computer Instructional Committee 1995
 Undergraduate Committee, 1997–2007
 GAANN Proposal, 1999, 2009, 2010 and 2015
 Head Review Committee, 2000
 Director for Computational Instruction, 2000–2006
 GAANN-VIGRE Committee, 2000–01
 Elementary Service Committee, 2001–2005
 Scholarship Committee Chair, 2004–05
 Promotions Committee, 2005–06, 2009–10, 2016–17, 2020–21, 2026
 Graduate Committee 2007–2008, 2013–2019 (Chair 2013–19)
 RTG Proposal Committee 2008–2010
 Recruiting Committee (Chair) 2010–2012
 GAANN Program Co-Director (2010–2015) and Director (2015–20)
 Associate Head for Graduate Studies January 2013– July 2019
 Teaching Assistant Awards Committee 2010, 2013–19
 Department of Mathematics Diversity Committee 2018–2025 (Chair, 2020–2025)
 Department of Mathematics Steering Committee (2024–2026)

COLLEGE COMMITTEES

Minority Affairs Committee 1995–96
 Faculty Committee on Diversity 2007– 2011, 2020–2025 (Chair 2008–2011)
 Diversity Pillar Committee 2008
 Graduate Chairs and Professionals (GCAP) 2013–2019 (Chair 2015–16)
 Strategic Planning Graduate and Postdoctoral Education Workgroup (2015–16)

OTHER PROFESSIONAL SERVICE

American Mathematical Society Joint Mathematics Meetings Travel Grants Committee, February 1, 2022–January 31, 2025

OTHER PROFESSIONAL SERVICE (CONT.)

Unity in Numbers Steering Committee (2023–present)

Candidate for election to American Mathematical Society Nominating Committee, 2022

External Reviewer, Southern University at New Orleans Department of Mathematics, April 29, 2019

External Reviewer, American University Department of Mathematics, January 22–24, 2023

External Reviewer, University of Texas, Arlington, Department of Mathematics, April 2–3, 2024

Reviewer, Math Reviews (1992–2003)

Panelist for National Science Foundation Reviews¹

REFERENCES (more provided on request):

James Arthur University Professor Emeritus, University of Toronto, and former President of AMS, arthur@math.utoronto.ca

Terrence Blackman, Chair of Math Alliance Executive Council, Chair of Mathematics, Medgar Evers College, TBlackman@mec.cuny.edu

Rodrigo Bañuelos, Professor Emeritus and former Department Head, Purdue University, banuelos@purdue.edu

Donald Cole, Associate Provost Emeritus and Professor Emeritus of Mathematics, University of Mississippi, dcole@olemiss.edu,

Adrian Coles, Drug Developer, Biogen, Adrian.coles@biogen.com

Philip Kutzko, Professor Emeritus and Math Alliance Director Emeritus, University of Iowa, philip-kutzko@uiowa.edu

Shirley Malcolm, Senior Advisor to CEO and SEA Change Director at AAAS, smalcolm@aaas.org

Theresa Martines, Director of Gulf States Math Alliance, and Associate Professor of Mathematics, University of Texas, Theresa.Martines@austin.utexas.edu

Leslie McClure, Dean of College for Public Health and Social Justice, St. Louis University, leslise.mcclure@slu.edu

Kyndra Middleton, Professor of Educational Psychology, Howard University,
kyndra.middleton@Howard.edu

Peter Sarnak, Professor of Mathematics, Princeton, and Member, Institute for Advanced Studies,
sarnak@math.princeton.edu

Freydoon Shahidi, Distinguished Professor of Mathematics Emeeitus, Purdue University, Shahidi,
freymoon.shahidi.1@purdue.edu

Jianzhong Su, Director of Gulf States Math Alliance and Chair of Mathematics, University Texas at
Arlington, su@uta.edu

William Vélez, Professor Emeritus, University of Arizona, velez@math.arizona.edu,

Ron Wasserstein, Executive Director of American Statistical Association, ron@amstat.org

Appendices

A. Math Alliance background and achievements:

The Math Alliance formally moved its operations to Purdue in March 2016, and I became its Executive Director. Among the immediate needs was development of a stable funding model as the DMS Infrastructure grant supporting the organization was expiring without the possibility of renewal (by mutual agreement). In 2017 we created the Center for the National Math Sciences Alliance within the Purdue College of Science. This became a platform for building partnerships with universities, professional organizations, and industrial concerns, and we also developed a membership structure based on the membership program at MSRI (now SLMATH). Departments and programs could become members for a modest fee with significant benefits. By 2020 the Center had developed to the point where the Math Alliance was self-funded, and running a modest surplus.

At the undergraduate level, Math Alliance Mentors identify students who should be encouraged to pursue graduate studies in a quantitative science, and mentor them in intentional ways. At the graduate level, there are 44 Doctoral Program Groups (DPGs). A DPG is a core group of faculty in a doctoral program who work to create an inclusive and supportive environment. There are also 11 Master's Program Groups (MPGs) which provide a productive climate similar to that of the DPGs, but are also terminal MS programs with a proven record of success in preparing students for doctoral programs.

To support the transition from undergraduate to graduate study, there is the Facilitated Graduate Admissions Procedure (F-GAP), which provides individual mentoring from a doctoral program faculty member. This helps the student navigate the graduate application process. F-GAP Scholars and their Mentors also are invited to the Career Paths Workshop, which helps elucidate the myriad opportunities open to Scholars.

The Math Alliance has also spawned several regional math alliances - autonomous organizations sharing goals and principles with the Math Alliance, and working to increase the number of Scholars in their geographical area. Finally, the annual Field of Dreams Conference brings together all the strands of the Math Alliance community to support student success, build community, and advance the Math Alliance mission.

Among my accomplishments as Math Alliance Executive Director were:

- Growing to 1,485 Mentors at over 430 campuses, about 1,000 of these Mentors joined during my tenure;
- 2,961 Math Alliance Scholars have been part of the program, and 1,552 of those have joined the community while I was in the office of Executive Director;
- Data shows 382 doctorates earned among Math Alliance Scholars, of which 69% self-identify as Underrepresented Minorities, as defined by NSF;
- At least 336 doctorates were earned after I assumed the role of Executive Director in 2016;
- The data shows 330 Math Alliance Scholars currently in doctoral programs;
- The Math Alliance added 18 DPGs and MPGs during my tenure as Executive Director;
- The Field of Dreams Conference grew to a record size of over 400 participants;
- Supported creation of several new regional alliances
- I shepherded the organization through COVID-19, developing online versions of the Field of Dreams Conference (which attracted over 500 participants in 2020, and again in 2021), working with IMA to place the Career Paths Workshops online, and developing material to help Mentors and Scholars continue their work in the time of social distancing.

During my tenure with the Math Alliance we saw rapid growth, and scaled up the community and activities, while maintaining staffing levels. Under my leadership, we

- Expanded the Field of Dreams Conference by a half-day;
- Added the Career Paths Workshop;
- Created the Center for the National Math Sciences Alliance;
- Established the separate 501c3 the Corporation for the National Math Sciences Alliance;
- Tripled the number of Math Alliance Mentors; and
- Doubled the number of Math Alliance Scholars, while keeping staff levels constant (and at 70% of the staffing level of the program at its previous home).

B. Work as Graduate Chair, and the Graduate Assistance in Areas of National Need (GAANN) program.

When I began in the role of Associate Head for Graduate Studies, the program was 42% U.S. students and 58% international students. This was already a significant improvement from an earlier point where the program had been 35% U.S. students. I set the target that the doctoral program should have a composition of 2/3 U.S. students and 1/3 international students. Each of the seven recruiting classes I admitted was very close to that target. When the last class I recruited entered in the fall of 2019, the graduate program was 63% U.S. students. That proportion has remained roughly the same since my tenure as Graduate Chair ended.

This increase in U.S. participation also brought increased participation by underrepresented minority and female graduate students. The program went from 5% of U.S. students belonging to an underrepresented minority group (as identified by NSF) to 18% over the course of 6 years, and the participation of female U.S. students also rose from 15% to 24%. Coupled with the significant increase in U.S. student participation overall, this meant a roughly five-fold increase in the number of underrepresented minority students, and a near doubling of the number of U.S. female graduate students. An external review panel for the Department's GAANN program, conducted during this time as graduate chair, opened their report by remarking that the program had excellent graduate students and that the faculty reported being very happy with the quality of students being brought into the program.

Based on my experience on sabbatical at University of Iowa, I helped the Purdue Math Department write its first Graduate Assistance in Areas of National Need (GAANN) proposal in 1999 and specifically crafted the part of the document detailing how the GAANN students would be mentored. Since 2000, I have been part of four GAANN grants, and for the awards in 2010 and 2015, I was co-Project Director, and Project Director, respectively. At least 36 Purdue Math students, the majority of whom were either female or from underrepresented minority groups, were supported by these GAANN grants. At least 22 of those students achieved doctorates. Postdoctoral appointments for these fellows included Brown, UPenn, U. Louisiana Monroe, Iowa, U. Portland, Carleton College, Gettysburg College, Ohio State, Connecticut, Illinois, Michigan State, and Virginia Tech, among others.

C. Unity in Numbers:

In the fall of 2023, the Math Alliance began a discussion across the quantitative sciences profession about building broader and more unified pathways to ensure all students have the opportunity to pursue careers in these fields. The initial idea was to build an NSF INCLUDES grant for the purposes of creating this infrastructure. I was among the steering committee for the Unity in Numbers project, and with the help of the Simons Foundation, on May 20, 2024, we convened a full cross section of our profession to discuss possible means of collaborating on creating pathways to quantitative science careers for all U.S. students who have an interest in these fields. This meeting included representatives of AMS, ASA, MAA, SIAM, CBMS, AWM, NAM, CAARMS, EDGE, INFORMS, AMATYC, TPSE Math, IMSI, The Math Alliance, The Center for Measurement Justice, The Simons Foundation, The Alfred P. Sloan Foundation, The Peter & Carmen Lucia Buck Foundation, and others.

D. Partnership relationships:

Over the course my work as Math Alliance Executive Director, I have worked to develop partnership relationships with several universities, professional societies and corporations. More specifically, the following have been formal partners with the Math Alliance under my direction:

- 3M Company
- Arizona State University
- American Mathematical Society
- American Statistical Association
- Bristol Meyers Squibb
- California State University, Fullerton
- Georgia State University
- Penn State University
- Purdue University
- University of Iowa
- University of Minnesota
- University of Washington
- Washington University in St. Louis

In addition, we had working relationships with individuals at many other concerns, including Biogen, Eli Lilly, Exxon Mobil, Google, Microsoft, Merck, Roche, and SIAM, several of whom have supported us at a level below a formal partnership. We have also co-organized our Career Paths workshop since 2019 with Math Science Institutes. First, we co-organized with the Institute for Mathematics and its Applications (IMA), and since 2023 we have co-organized with IMA and Institute for Mathematical and Statistical Innovation (IMSI).