

2021 Annual Report – BD Cohort I

Kentucky-West Virginia
Louis Stokes Alliance for
Minority Participation
(KY-WV LSAMP)
Bridge to the Doctorate (BD)



Submitted to
The National Science Foundation
2415 Eisenhower Avenue
Alexandria, VA 22314





KY-WV LSAMP Bridge to the Doctorate Cohort I

Pictured:

**Front L-R: JaMaya Wilson, Kayla Titalii-Torres, Xava Grooms, Edwina Barnett
Back L-R: Abelline Fionah, Alyssa Donawa, Ariel Robinson, Julia Parker, Andres Vindas
Melendez, E-Lexus Thornton**

Photo Credits: Mark Cornelison, UK photographer, took the picture above as well as the individual pictures of those listed above that can be found on pages 14-16 of this document.

Fara Williams took the photo that is on the back cover.

Not Pictured:

Alexis Smith, Aaron West

2021 Annual Report – BD Cohort I

Kentucky – West Virginia
Louis Stokes Alliance for Minority Participation
In Science, Technology, Engineering, and Mathematics
(KY-WV LSAMP STEM)

Submitted by

University of Kentucky
Host Institution

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Principal Investigator

George C. Wright, Ph.D.
Brian Jackson, Ph.D.
Johné Parker, Ph.D.
Brett Spear, Ph.D.
Co- Principal Investigators

Fara Williams
Project Director

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INTRODUCTION

The Kentucky-West Virginia Louis Stokes Alliance for Minority Participation program (KY-WV LSAMP) is a ten-institution alliance led by the University of Kentucky. Alliance members include: Bluegrass Community and Technical College (BCTC), Centre College, Jefferson Community and Technical College (JCTC), Kentucky State University (KSU), Marshall University, University of Kentucky (UK), University of Louisville (UofL), West Virginia State University (WVSU), West Virginia University (WVU), and Western Kentucky University (WKU). Alliance goals are to create, enhance, and expand programs designed to broaden participation and increase the quality and quantity of students from underrepresented (URM) populations who receive degrees in science, technology, engineering, and mathematics (STEM) disciplines.

In keeping with the overarching goal of increasing the number of URM STEM degrees, KY-WV LSAMP submitted a proposal to support a cohort of graduate students through the LSAMP Bridge to the Doctorate initiative. Funding for the first cohort in the alliance was granted to the University of Kentucky with a start date of June 1, 2020. Copies of news releases on the award can be found in Appendix A. Throughout the summer, graduate students were recruited, interviewed, and selected. Eight Fellows began receiving financial support Fall 2020. One Fellow began receiving financial support Spring 2021. The remaining positions will be filled with students who will begin receiving financial support no later than June 1, 2021.

The **intellectual merit** of the BD project is connected with the intellectual merit of the LSAMP program - the increased knowledge base related to teaching and learning practices for underrepresented students in STEM disciplines, practices for improved recruiting and retention, and the development of improved curriculum materials and practices for STEM disciplines. As Scholars and BD Fellows pursue their degrees and participate in program activities, they develop the skills needed to succeed not only in their degree programs, but also in the professional community of their chosen field. They learn the skills necessary to be the leaders and experts. BD Fellows and Scholars give and receive mentoring on multiple levels from middle school and high school students to world-renowned researchers. In addition to increasing their knowledge and research skills, this multi-level mentoring also helps the Fellows and Scholars to build excellent professional networks for current and future research, presentation, educational and professional opportunities. Often, the connections made through the LSAMP program guide them to the next opportunity.

The **broader impact** is the increase in URM STEM degree production. This will broaden math, science, and engineering participation of underrepresented students from the two Established Program to Stimulate Competitive Research (EPSCoR) states and surrounding regions. Because of the skills developed and the connections made through LSAMP BD, Fellows are uniquely qualified for positions (including those of leadership) in academia, industry, and government. This will increase the diversification of the STEM workforce and continue to broaden the participation of underrepresented students who seek and earn graduate degrees as the BD Fellows mentor others as they progress in their careers.

The increase in skilled workforce has the potential to significantly improve the competitive position of the two states and eventually to improve faculty diversity in STEM fields. In turn, participants will play key roles in educating their respective communities about STEM fields and encouraging younger students to pursue STEM disciplines. The multi-level mentoring gives BD Fellows a venue for serving as role models for future generations.

Though this project is located at and administered by the University of Kentucky, it has the support of and connection to each campus in the alliance. It is important to recognize the program leaders within the alliance. Therefore, a list of the program leaders and their contact information is listed on the next page.

KY-WV LSAMP ALLIANCE PERSONNEL

The Kentucky-West Virginia Louis Stokes Alliance is comprised of the following key personnel:

Eli Capilouto , DMD, ScD Principal Investigator University of Kentucky 101 Main Building Lexington, KY 40506-0032	pres@uky.edu	Maurice Cooley Campus Coordinator Marshall University Old Main, 107; One John Marshall Drive Huntington, WV 25755-1055	cooley@marshall.edu
Kazi Javed , Ph.D. Co-Principal Investigator Kentucky State University 130 Carver Hall, 400 East Main Street Frankfort, KY 40601	kazi.javed@kysu.edu	V. Faye Jones , MD, Ph.D., MSPH Campus Coordinator University of Louisville 323 East Chestnut Street Louisville, KY 40202	yfjone01@louisville.edu
Lynn Michaluk , Ph.D. Co-Principal Investigator West Virginia University 329 White Hall Morgantown, WV 26506	lynette.michaluk@mail.wvu.edu	Hannah Payne Campus Coordinator West Virginia State University 2100 Toney House Institute, WV 25112	hannah.payne@wvstateu.edu
David Miller , Ph.D. Co-Principal Investigator West Virginia University PO Box 6310 Morgantown, WV 26508-6310	millerd@math.wvu.edu	Charles McGruder , Ph.D. Campus Coordinator Western Kentucky University TCCW 220; 1906 College Heights Blvd #11077 Bowling Green, KY 42101-1077	mcgruder@wku.edu
Johné Parker , Ph.D. Co-Principal Investigator University of Kentucky 175 Ralph G Anderson Bldg. Lexington, KY 40506-0503	johne.parker@uky.edu	Raúl Torres Campus Coordinator University of Kentucky 202 Bosworth Hall Lexington, KY 40506	raul.torres@uky.edu
Willie Pearson , Ph.D. Program Evaluator Georgia Institute of Technology 119 Old C.E. Atlanta, GA 30318	kingvassie@comcast.net	Victoria Cloud Campus Coordinator Bluegrass Community and Technical College 500 Newtown Pike Lexington, KY 40508	paige.cloud@kctcs.edu
Fara Williams Project Director University of Kentucky 161-H Jacobs Science Building Lexington, KY 40506-0174	fara.williams@uky.edu	Leonard Demoranville , Ph.D. Campus Coordinator Centre College 600 West Walnut Street Danville, KY 40422	leonard.demoranville@centre.edu

KY-WV LSAMP BD COHORT I PERSONNEL

The Bridge to the Doctorate initiative at the University of Kentucky, Lexington, KY is comprised of the following key personnel:

David W. Blackwell, provost@uky.edu
Principal Investigator
Provost
105 Main Building

Sonja Feist-Price, Ph.D.
Co-Principal Investigator until August 2020
Vice President of Institutional Diversity
Until departure from the University

George C. Wright, Ph.D. vpid@uky.edu
Co-Principal Investigator beginning Aug. 2020
Interim Vice President for Institutional Diversity
304 Main Building

Brian Jackson, Ph.D. brian.jackson@uky.edu
Interim Dean of the Graduate School
101 Ezra Gillis Building

Brett Spears, Ph.D. bspear@uky.edu
Co-Principal Investigator
Professor of Microbiology, Immunology, and
Molecular Genetics
Director of the Integrated Biomedical Sciences
Ph.D. program in the UK College of Medicine

Johné Parker, Ph.D. johne.parker@uky.edu
Co-Principal Investigator
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Raúl Torres raul.torres@uky.edu
Campus Coordinator
202 Bosworth Hall

PROGRAM GOALS AND MEASURABLE OBJECTIVES

The goals of the KY-WV LSAMP Bridge to the Doctorate program are to recruit, mentor, and support a cohort of twelve Fellows through completion of terminal degrees in STEM fields. Support is to include academic, social, professional, and financial support.

Recruitment

The first recruitment/selection cycle began June 1, 2020. BD pages were added to the KY-WV LSAMP website. Details of the selection process were posted. Both an electronic submission application as well as a fillable pdf application were provided on the website. Recruitment emails were sent to all scholars and coordinators in the KY-WV LSAMP alliance. Recruitment emails were sent nationally through the NSF LSAMP listserv as well as the Louis Stokes Midwest Regional Center of Excellence (LSMRCE) listserv. Fara Williams attended the LSMRCE virtual conference and hosted a recruitment “table” during the event. UK faculty were also provided with information about the program in order to aid recruitment efforts. A virtual meeting was held with UK Directors of Graduate Studies (DGS) and department chairs to provide information to them about BD. Copies of BD documents including a flier and application can be found in Appendix B.

In addition to completing an application form, the department in which the potential fellow would be a student was asked to complete a nomination form. This form was also provided in both electronic and pdf formats on the program website. Students who were or planned to be new to the University of Kentucky were provided assistance in connecting with faculty including department chairs and DGS’s.

Since not all positions were filled with the first cycle, a second selection cycle began Spring 2021. February 15, 2021, was established as an application deadline. There was a second round of solicitation both within the KY-WV LSAMP alliance as well as through the national LSAMP and LSMRCE listservs.

Selection

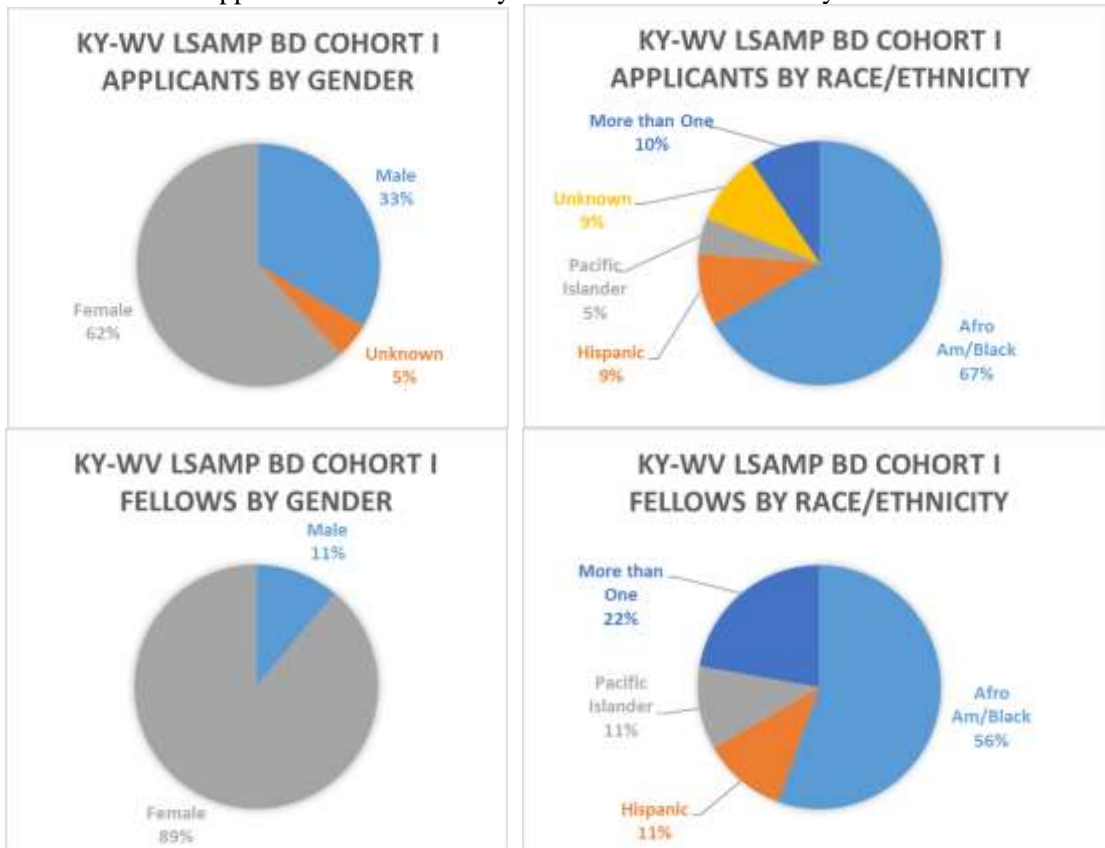
During the first selection cycle, from a pool of 21 applicants, 14 students were selected for Zoom interviews. Interviews were recorded, so members of the selection committee who were unable to participate could view them later. Recordings were also utilized by members who were present in order to refresh them on the candidates’ responses.

From those who were interviewed, nine students were selected as BD Fellows. Of the nine, three were first semester graduate students at UK Fall 2020, four were in the early/middle stages of their graduate program, and two were in the final stages of their graduate program. Out of the nine Fellows, only two had the same major, so there was great diversity in discipline representation. Other statistics on the Fellows as well as the first applicants include:

- 14 out of 21 applicants are first generation college students
- 7 out of 9 Fellows are first generation college students
- 13 out of 21 applicants were first year graduate students
- 3 out of 9 Fellows were first year graduate students

Charts representing applicants and Fellows by gender and race/ethnicity can be found in Figure 1.

Figure 1. First Round Applicants and Fellows by Gender and Race/Ethnicity



The Fellows who were selected are:

- Edwina Barnett**, biomedical engineering
- Alyssa Donowa**, computer science
- Abelline Fionah**, chemistry
- Xava Grooms**, computer science
- Julia Parker**, biosystems engineering
- Alexis Smith**, biochemistry
- Kayla Titalii-Torres**, biology
- Andres Vindas Melendez**, mathematics
- JaMaya Wilson**, materials science and engineering

For the second selection cycle, from a pool of twelve applicants, eight were selected for Zoom interviews. Again, interviews were held virtually and recorded for members of the selection committee to review. From the candidates, the selection committee selected three students to receive offers. In addition, the committee selected two students as alternates (in order of preference) in case a selected candidate rejects the fellowship offer. Of the three offers, two were accepted. One was declined, therefore the first alternate was sent an offer. That offer was accepted. The new Fellows have already begun participating in program activities. They will begin receiving financial support beginning June 2021. The new fellows are: **Ariel Robinson** (civil engineering), **E-Lexus Thornton** (mechanical engineering), and **Aaron West** (biology).

Academic, Social, and Professional Support

Fellows began receiving academic, social, and professional support during a retreat that was held virtually the week of August 10-14, 2020. Beginning Monday, August 24, Fellows participated in weekly meetings. These meetings are planned as a rotation of professional development speakers, Fellow-led conversations, and time spent working on individual projects including grant writing, presentation and publication development, and literature review. The agenda from the retreat as well as a list of the meeting dates, speakers and topics can be found in the Program Activities section.

Financial Support

Of the first nine BD Fellows, seven began receiving financial support (stipend and cost of education) from the program in August 2020. One began receiving financial support in September 2020, and one began receiving financial support January 2021. All nine Fellows have received a monthly stipend. Tuition, single-person health insurance, and most fees were paid by the BD grant and a scholarship fund from the Graduate School. There were a few fees that are not allowable to be paid from those sources. In most cases, those fees were covered by the Fellow's department.

To aid in the processing of stipends and tuition, a meeting was held with administration professionals from the Graduate School, Financial Aid, Grants and Contracts, Office of Institutional Diversity, and the KY-WV LSAMP project director. At this meeting, a standard operating procedure (SOP) was developed for processing stipends as well as other financial support for the BD Fellows. This procedure will be adjusted as needed throughout the course of the project and beyond.

To initiate communications between departments and BD administration, provide information about BD and LSAMP, and answer questions department personnel may have, introductory virtual meetings were arranged with each department upon acceptance of the BD Fellowship by the student. Additionally, a meeting was held and will continue to be held with each department once a semester in order to communicate about issues relating to the Fellows including tuition and fee expenses. Persons invited to these meetings include, but are not limited to: the BD project director, the department chair, the DGS, the Fellow's faculty advisor/mentor, and persons responsible for graduate student stipend and cost of education processing within the department and/or college.

PROGRAM ACTIVITIES

Group Meetings

A BD Retreat was held in August 2021. The agenda for the multi-day, virtual event can be found in Table 1. Sessions included introductions to members of the BD Co-PI team and Advisory Board as well as information about different support offices and programs on campus. Sessions also included opportunities for the Fellows to connect with and learn about one another in order to form a supportive community and a cohesive cohort.

BD Fellows were required to attend weekly meetings. During 2020/21, these meetings were held virtually via Zoom. A list of the meeting speakers and topics can be found in Tables 2 and 3. Speakers for some sessions held during the retreat as well as the weekly meetings were selected in order to fulfill some Fellow requirements. For example, the required Unconscious Bias training requirement was met by the Fellows who attended the November 2 meeting. Each meeting is documented. Details include the date and time, the speaker(s), the topic of conversation, announcements that are made, an attendance list, and notes from the discussions. The last meeting for Fall 2020 was held in person and was intended to

increase community building and as a celebration of completing the semester. This session was a group painting activity that was paid for by the Office of Institutional Diversity. A collage of pictures from the event is on the back cover of this document. The May 10 meeting was also held in person as a celebration to the end of the semester. In addition to the casual conversations, a UK photographer took pictures of each Fellow and a couple pictures of the entire group. Those pictures will be used in this and future reports and news releases. The group picture on the inside front cover and most of the individual pictures on pages 14-16 are from that day.

Table 1. Bridge to the Doctorate Retreat Agenda

<u>Monday, August 10, 2020</u>	
2:00-2:30 PM	Congratulations and Basic Introductions
2:30-3:00 PM	Who is it? Getting to know your colleagues.
3:00-3:30 PM	Introduction, Dr. Eduardo Santillan-Jimenez: BD Advisory Board Member, Program Manager for the Center for Applied Energy Research
3:30-4:00 PM	Conversation and Break
4:00-4:30 PM	Brian Hamilton: Center for Graduate and Professional Diversity Initiatives
4:30-5:00 PM	Expectations
<u>Tuesday, August 11, 2020</u>	
10:30-11:00 AM	Two Truths and a Lie
11:00-11:30 AM	Introduction, Dr. Brian Jackson: BD Co-PI, Interim Dean of the Graduate School Introduction, Dr. V. Faye Jones: UofL Associate VP of Diversity Initiatives, KY-WV LSAMP Coordinator and UK BD Advisory Board Member
11:30-12:00 PM	Dr. Emily Bradford: Responsible Conduct of Research (RCR) and Conflict of Interest (COI)
12:00-1:00 PM	Lunch Conversation
1:00-1:30 PM	Dr. Brett Spear, BD Co-PI: Getting the Most out of Your Research Advisors and Mentors
1:30-2:00 PM	Dr. Pat Whitlow: Office of Nationally Competitive Awards
2:00-2:30 PM	Conversation and Break
2:30-3:00 PM	Ray Clere: Stuckert Career Center
3:00-3:30 PM	Dr. Morris Grubbs: Assistant Dean, Graduate School Professional Enhancement
3:30-4:00 PM	Introduction, Dr. Corey Baker: BD Advisory Board Member, Assistant Professor, Computer Science
<u>Friday, August 14, 2020</u>	
12:00-12:30 PM	Introduction, Dr. Ben Braun: BD Advisory Board Member, DGS of Mathematics
12:30-1:00 PM	Weekly Meetings - Format and Schedule
1:00-1:30 PM	Dr. Nicole Martin: Inclusive Excellence and Diversity Education
1:30-2:00 PM	Wrap Up and Q&A

Table 2. BD Fellow Fall 2020 Meetings

	Date	Focus	Speaker/Led By	Specific Topic(s)
Week 1	August 24	Semester Kick-Off	NA	Getting to Know Each Other
Week 2	August 31	Professional Development	Ruth Gonzalez	Voting
Week 3	September 7	Fellow Sharing / Q&A	Kayla Titalii-Torres	Virtual Conferences; Burning Out - Strategies for avoiding it and coping with it in graduate school
Week 4	September 14	Grant Writing / Study Time	NA	Working... Together...
Week 5	September 21	Professional Development	Tiffany Jackson	Financial Management: Budgeting and iGrad
Week 6	September 28	Fellow Sharing / Q&A	Julia Parker	Self Advocacy
Week 7	October 5	Grant Writing / Study Time	NA	Working... Together...
Week 8	October 12	Professional Development	Joseph Lutz	Individual Development Plan (IDP)
Week 9	October 19	Fellow Sharing / Q&A	Andres Vindas Melendez	Mentoring, specifically graduate student mentoring
Week 10	October 26	Grant Writing / Study Time	NA	Working... Together...
Week 11	November 2	Professional Development	Dr. Nicole Martin and Brittany Gollihue	Unconscious Bias
Week 12	November 9	Fellow Sharing / Q&A	Edwina Barnett	Vison Boards
Week 13	November 16	End-of-Semester Celebration	NA	Paint and Sip

Table 3. BD Fellow Spring 2021 Meetings

	Date	Focus	Speaker/Led By	Specific Topic(s)
Week 1	February 1	Semester Kick-Off	NA	
Week 2	February 8	Professional Development	None	Setting up BD Fellow Speaker Series
Week 3	February 15	Fellow Sharing / Q&A	Alyssa Donawa	Community and Support Networks; "Finding Your People"
Week 4	February 22	Grant Writing / Study Time	NA	Working... Together...
Week 5	March 1	Professional Development	Fara Williams	Buying vs. Renting a House
Week 6	March 8	Fellow Sharing / Q&A	Abelline Fionah	Self Care
Week 7	March 15	Grant Writing / Study Time	NA	Working... Together...
Week 8	March 22	Professional Development	Dr. George Wright	Interim VP for Institutional Diversity
Week 9	March 29	Fellow Sharing / Q&A	JaMaya Wilson	TBD
Week 10	April 5	Grant Writing / Study Time	NA	Working... Together...
Week 11	April 12	Professional Development	Dr. Eduardo Santillan-Jimenez	IRA/Investing
Week 12	April 19	Fellow Sharing / Q&A	Alexis Smith	TBD
Week 13	April 26	Grant Writing / Study Time	NA	Working... Together...
Week 14	May 3	Professional Development	Dr. Judy Prats	The UK Writing Center
Week 15	May 10	End-of-Semester Celebration	NA	None

Individual Meetings and Reports

In September 2020, each Fellow met with the project director via Zoom for a minimum of 30 minutes in order to discuss their progress to date as well as any problems they were having. Each meeting, including an overview of the discussion, was documented in the Fellow's records. In late March/early April, each Fellow, again, met with the project director. Each Fellow also provided a written report of accomplishments for the reporting period. For this first report, the reporting period covers August 1, 2020 to February 28, 2021. The next report will cover the period March 1, 2021 to February 28, 2022.

Faculty Events

On Thursday, February 11, 2021, at 11:30 am, Dr. Brett Spear (BD Co-PI) presented to a group of faculty who are members of the Advisory Board and/or mentors to one or more BD Fellows. This session was on the topic of mentoring students. A copy of notes including a list of those who attended can be found in Appendix C.

Mentoring Undergraduates and Speaker Series

Beginning April 20, 2021, the BD Fellows will serve as speakers for a professional development series for the KY-WV LSAMP Scholars. A table of the dates and topics can be found in Table 4. Topics were selected by the BD Fellows and are subject to change. Sessions are being recorded and will be posted to the program website.

Table 4. BD Fellow 2021 Speaker Series

DATE	BD FELLOW	TENTATIVE TOPIC
April 20	Andres Vindas Melendez	Fellowship Applications
May 18	Abelline Fionah	Work-Life Balance
June 1	Alexis Smith	Rotations - Mentors/Professors/Departments
June 15	JaMaya Wilson	Uncertainty in Programs
June 29	Kayla Titalii-Torres	Graduate School Interviews
July 13	Edwina Barnett	International Experiences
July 27	Julia Parker	Personal Statements
August 10	Alyssa Donawa	Securing Funding
August 24	Xava Grooms	Imposter Syndrome

Professional Development Requirements

As seen from the list of meetings, BD Fellows have received unconscious bias training, completed an Individual Development Plan (IDP), completed Responsible Conduct of Research (RCR) training, and participated in multiple financial management sessions. Some sessions will be repeated for all Fellows. Other sessions will be presented to the new Fellows individually or in special sessions. Participation will continue to be monitored and documented. Many Fellows have also taken the required introductory course for the Preparing Future Faculty certificate program. In addition to learning from the class itself, several Fellows have expressed the benefit of taking the class with other members of the BD cohort.

BD COHORT I ADVISORY BOARD

For the success of the KY-WV LSAMP BD initiative, an advisory board of professors and administrators at the University of Kentucky has been created. BD Advisory Board members provide expert advice on Fellow progress and program activities. They represent a variety of disciplines and backgrounds including science, technology, engineering, and mathematics as well as diversity leadership, student success programming, and community engagement. Board members also represent a variety of career stages including senior administration, tenured faculty, new faculty, and senior staff. Members have been selected because of their proven record in mentoring URM STEM students in research as well as career advisement. Their collective experience is significant. Board Members are listed in Table 5.

Two changes to the Advisory Board have been made since submission of the proposal. In August 2020, Dr. Sonja Feist-Price left the University of Kentucky to become Provost at the University of Michigan, Flint. Upon her departure, Dr. George C. Wright assumed the role as Interim VP for Institutional Diversity and BD Advisory Board Member. In Fall 2020, Dr. Lance Poston took a different position at the university. The new position does not include a large portion of time spent with graduate students. For this reason and in order to maintain a close relationship between KY-WV LSAMP and the Center for Graduate and Professional Diversity Initiatives (CGPDI), David Butts was invited to fill the Advisory

Board position previously held by Dr. Poston. David Butts is the Associate Director of CGPDI. He manages many of the daily operations and supports the unit’s strategic outreach and belonging-focused efforts. He began serving on the board April 6, 2021.

Board Members served as the selection committee. They reviewed the applications, interviewed the candidates, and selected the students who would be offered fellowships. Board Members will also give at least one presentation to the Fellows on a professional development topic of their choice. Several Board Members have been scheduled to give their talk. Others will do so during the life of the grant.

Table 5: BD Advisory Board Members

Name	Title	Department/Office	Perspective
Johné Parker, Ph.D. Co-Chair	KY-WV LSAMP Co-PI; Associate Professor	Mechanical Engineering	LSAMP; Engineering
Sonja Feist-Price, Ph.D. Co-Chair until July 31, 2021	Vice President; Professor	Institutional Diversity; Early Childhood, Special Education and Rehabilitation Counseling	Diversity Leadership; Social Sciences
George C. Wright, Ph.D. begin August 1, 2021	Interim VP; Senior Advisor to the President	Institutional Diversity	Diversity Leadership; Social Sciences
Fara Williams Recorder	Director	KY-WV LSAMP	LSAMP; Student Success Programming
Corey Baker, Ph.D.	UK Assistant Professor; Former LSAMP Scholar and BD Fellow at CSU-LA	Computer Science	Technology; LSAMP
Luke Bradley, Ph.D.	Associate Professor	Neurosciences	Science – Life Sciences
Benjamin Braun, Ph.D.	Professor	Mathematics	Mathematics
David Butts begin April 6, 2021	Associate Director	Center for Graduate and Professional Diversity Initiatives	Diversity Leadership; Student Success Programming
V. Faye Jones, MD, Ph.D., MSPH ex officio	KY-WV LSAMP UofL Campus Coordinator; Associate VP; Professor	Health Affairs – Diversity Initiatives; Department of Pediatrics	LSAMP; Science – Life Sciences
David Miller, Ph.D. ex officio	KY-WV LSAMP Co-PI and WVU Campus Coordinator; Professor	Mathematics	LSAMP; Mathematics
Lance Poston, Ph.D. until April 5, 2021	Director	Center for Graduate and Professional Diversity Initiatives	Diversity Leadership; Student Success Programming
Cleo Price, Ed.D.	Assistant Dean for Graduate Diversity Outreach and Student Records	Graduate School	Diversity Leadership; Student Success Programming
Eduardo Santillan- Jimenez, Ph.D.	Research Scientist Principle	Center for Applied Energy Research	Science – Physical Sciences, Chemistry

PARTNERS AND AFFINITY PROGRAMS

The National Science Foundation Graduate Research Traineeship (NRT) program is funded by grant #1922694. This program shares similar goals and activities with the BD program. Both programs work together to aid in creating a critical mass of diverse graduate talent at UK. In addition, BD applicants who are not selected as Fellows will be recommended for NRT support if their degree program and/or research project qualifies. NRT Co-PI, Dr. Eduardo Santillan-Jimenez, also serves on the BD Advisory Board. In 2020-21 and in the future, some events will be combined BD/NRT events. For example, the session Dr. Santillan presented on investing was attended by participants in both programs and also made available to other students on campus.

STEM Through Authentic Research Training (START) program is funded by the National Institutes of Health grant #R25 GM132961. This program serves as a pipeline for potential future LSAMP and BD participants. Students in middle school and high school receive research experiences at the University of Kentucky. LSAMP undergraduates serve as near peer mentors. START participants may be invited to participate in activities involving BD Fellows as speakers and/or mentors. In addition, START PI, Dr. Luke Bradley, also serves on the BD Advisory Board.

Louis Stokes Midwest Regional Center of Excellence (LSMRCE) offers presentation and professional development opportunities for the BD Fellows as well as the program administration and faculty mentors. COVID impacted participation in LSMRCE Conference participation. Though there was not a large KY-WV LSAMP participation at the conference, the project director and UK campus coordinator did host recruitment for BD at this event. BD Fellows will be strongly encouraged to present and participate in the 2021 conference.

Center for Graduate and Professional Diversity Initiatives (CGPDI) has connections with opportunities such as scholarships and conference travel support. CGPDI also has physical space in which BD Fellows can meet, study, and connect with other graduate students as well as faculty and staff. Unfortunately, due to COVID, access to CGPDI space has been limited during the 2020-21 academic year. However, we anticipate it reopening/expanding for academic year 2021-22.

Graduate School has many programs and activities that are beneficial to the BD Fellows. Many Fellows received financial support through a Graduate School Scholarship. BD Fellows are required to take the introductory course of the Preparing Future Faculty series. Fall 2020, seven of the Fellows took this class. Spring 2021, two Fellows took it. Fellows were also made aware of other initiatives such as Imagine PhD and Handshake during a presentation by Dr. Morris Grubs, Assistant Dean and Administrative Director of the Graduate Certificate in College Teaching and Learning. In addition, Dr. Cleo Price, Assistant Dean for Graduate Diversity Outreach and Student Records serves on the BD Advisory Board.

Other **Office of Institutional Diversity (OID) Units** provide support for the BD Fellows. The M.L. King Center provides cultural and social opportunities. The Inclusive Excellence and Diversity Education (IEDE) provided Unconscious Bias training for the Fellows. On Monday, November 2, 2020, Dr. Rae Loftis and Brittany Gollihue served as the professional development speakers during the weekly BD meeting. All nine of the BD Fellows participated in that virtual event.

PROJECT EVALUATION / EXTERNAL REVIEW

External evaluation team.

Dr. Willie Pearson, Jr., a prominent and well-respected scholar and evaluator with extended experience in URM STEM education, will continue to serve as the program evaluator. The role of the evaluation team will be to help guide the Alliance to refine and improve the program over time, to advise on best practices in collecting key information without introducing undue administrative record-keeping burden, and to help the leadership team interpret and analyze the evaluations in terms of effective best practices. Dr. Cheryl B. Leggon and others assist Dr. Pearson in evaluating the program.

Evaluation method.

Each year, the evaluation team conducts interviews, focus groups, and/or surveys with persons involved in the Bridge to the Doctorate program. These persons include the Fellows (participants), the program administration (including the PI/Co-PI team and the project director), members of the advisory board, and the faculty mentors and advisors. A copy of the complete evaluation is in Appendix D.

Highlights from 2020-21 evaluation.

All members of the advisory board expressed satisfaction with the implementation of the program to date. COVID has had an impact on the implementation of the program as well as on the lab protocols and mentoring/advising of the Fellows. Fellows understand the goals of the program and (in general) are satisfied with their overall experience during the academic year.

Recommendations for 2021-22.

- *Orientation.* Develop orientation modules to inform the various stakeholders of the goals and objectives of the program, as well as their roles and responsibilities in the program.
- *Communication with departments.* It would be useful for the program director to discuss the goals and objectives of BD with Directors of Graduate Studies and Chairs of Departments.
- *Communication with focus group members.* Project director should inform interviewees that they cannot participate in the focus group if they arrive later than five minutes after the focus group starts.
- *Communication with other programs* in the institution that support graduate student diversity and mentorship of underrepresented minorities. Opportunities to share what works and what could work better, and how these programs might leverage their resources by working together when feasible.
- *In-person events.* Invite a diverse group of external speakers, especially women.
- *Meetings.* Some Fellows suggested a change in the frequency of meetings.
- *Conflict of Interest.* In the future, there should be transparency in order to avoid any semblance of impropriety.

DISSEMINATION AND OUTREACH

Information regarding the Bridge to the Doctorate initiative is included on the KY-WV LSAMP website. As discussed earlier, news releases on the project award have been made. Copies of those are included in Appendix A. No presentations or articles have been disseminated by program administration to date. However, the project director and Dr. Eduardo Santillan-Jimenez are collaborating on a presentation for

the Fisk-Vanderbilt LSAMP Center of Excellence in Broadening Participation *You Can Build It: Tools for Broadening Research, Practice, and Scholarship Virtual Workshop*: July 15-16, 2021. In addition, project administration will seek opportunities to present on the activities and success of the BD project at the 2021 Louis Stokes Midwest Regional Center of Excellence Conference and other similar events.

INDIVIDUAL FELLOW ACCOMPLISHMENTS

BD Fellows have made presentations and submitted and articles for publication. Following is a list of individual BD Fellow accomplishments for this academic year. Copies of the abstracts for published articles can be found in Appendix E.



Edwina Barnett, biomedical engineering, began receiving BD funding August 2020. In 2020-21, Edwina: 1) was selected as treasurer of the Society for Biomaterials for 2021-22; 2) presented at the Center for Clinical and Translational Sciences, April 8, 2021; 3) served on a panel of graduate students at the KY-WV LSAMP 13th Annual Research Symposium, April 9, 2021; and 4) presented at the Society for Biomaterials 2021 Virtual Annual Meeting and Exposition, April 23, 2021.



Alyssa Donawa, computer science, began receiving BD funding August 2020. Alyssa 1) served as a poster judge at the Louis Stokes Midwest Center of Excellence (LSMRCE) 2020 virtual conference; 2) served as a graduate mentor for the Start to Finish Mentoring Program; 3) served as a panel speaker at the KY-WV LSAMP 13th Annual Research Symposium, April 9, 2021; 4) passed her qualifying exams in May 2021; 5) presented a poster, “Addressing the Need for Remote Patient Monitoring Applications in Appalachian Areas” at the Workshop for Interactive Systems in Healthcare (WISH) 2020 at the American Medical Informatics Association (AMIA) Annual Symposium; and 6) presented a poster, “Utilizing Sidechains to Improve Blockchains for Healthcare” at the ACM Richard Tapia Celebration of Diversity in Computing 2020.



Abelline Fionah, chemistry, began receiving BD funding January 2021. Abelline 1) served as a poster judge at the Louis Stokes Midwest Center of Excellence (LSMRCE) 2020 virtual conference; 2) published an article in CrystEngComm; 3) served as a panel speaker at the KY-WV LSAMP 13th Annual Research Symposium, April 9, 2021; and 4) served as a panel speaker at the Careers in Science and Engineering Symposium, August 29, 2020.



Xava Grooms, computer science, began receiving BD funding August 2020. Xava served as a poster judge at the Louis Stokes Midwest Center of Excellence (LSMRCE) 2020 virtual conference.



Julia Parker, biosystems engineering, began receiving BD funding August 2020. In 2020-21, Julia was selected as a member of the advisory committee for the NRT grant; and presented, “IN FelloWs & an Academy of Innovators at the Nexus of Food, Energy, & Water Systems (INFEWS)” at the NSF Research Traineeship (NRT) Annual Meeting, January 28-29, 2021.



Ariel Robinson, civil engineering, will begin receiving BD funding June 2021. Ariel is a new BD Fellow. Though she will not begin receiving funding until June, she began attending the weekly BD meetings in April. This allows her to begin building relationships with the other BD Fellows and receive professional development.



Alexis Smith, biochemistry, began receiving BD funding August 2020. In 2020-21, Alexis: 1) was co-chair of the Advisory Council on Diversity and Inclusion Council for the Department of Molecular and Cellular Biology at the University of Kentucky; 2) was co-chair of the Students Embracing Equity in Molecular Sciences; 3) presented a poster at the College of Medicine Poster Session, April 1, 2021; and 4) completed her qualifying exams, November 2020.



E-Lexus Thornton, mechanical engineering, will begin receiving BD funding June 2021. E-Lexus is a new BD Fellow. Though he will not begin receiving funding until June, he began attending the weekly BD meetings in April. This allows him to begin building relationships with the other BD Fellows and receive professional development.



Kayla Titillii-Torres, biology, began receiving BD funding August 2020. In 2020-21, Kayla: 1) received a travel scholarship, served as an undergraduate poster judge, presented a poster, and received an “Exemplary Poster Presentation Award” at the Society of Chicanos and Native Americans in Science (SACNAS) National Conference; 2) served as director of NERD SQUAD, Inc., a community outreach program that provides services including hands-on science activities for K-12 students; 3) served on the Mentoring and Advising Policies Committee for the Department of Biology; 4) served on the Graduate Affairs Committee for the Department of Biology; 5) served on the LSMRCE 2020 virtual conference planning committee; 6) served on the Research Affairs Core Committee for the Endocrine Society; 7) served as vice president of the Biology Graduate Student Association; 8) received an iCURE Postdoctoral Fellowship; 9) was a finalist for a PEO Scholarship; and 10) published in *Frontiers of Cell and Developmental Biology*.



Andres Vindas Melendez, mathematics, began receiving BD funding September 2020. In 2020-21, Andres: 1) received a travel scholarship, gave an oral presentation, and received a presentation award at the Society of Chicanos and Native Americans in Science (SACNAS) National Conference; 2) made a dozen other presentations including as an invited speaker at the Applied Algebra Seminar at York University (Toronto, Canada) and an American Mathematics Society (AMS) Special Session; 3) was selected as a 2020 Latinxs & Hispanics in the Mathematical Sciences Honoree; 4) received a 2020-21 Tensor-SUMMA (Strengthening Underrepresented Minority Mathematics Achievement) grant from the Mathematical Association of America; 5) submitted two postdoctoral fellowship applications; 6) served as a reviewer/referee for Algebraic and Geometric Combinatorics proceedings, the Journal of Combinatorial Theory Series A, the Association for Women in Mathematics 50th Anniversary Volume, zbMath, and Testimonies: Stories of Latinx and Hispanic Mathematicians; 7) was a student author for, “Math SWAGGER: Building a Virtual Community” for *Notices of the American Mathematical Society*; 8) contributed to blogs including “A Reflection on Giving ONLINE Talks;” and 9) contributed to *2020 Lathisms: Latinxs and Hispanics in the Mathematical Sciences*.



Aaron West, biology, will begin receiving BD funding June 2021. Aaron is a new BD Fellow. Though he will not begin receiving funding until June, he began attending the weekly BD meetings in April. This allows him to begin building relationships with the other BD Fellows and receive professional development.



JaMaya Wilson, materials science and engineering, began receiving BD funding August 2020. In 2020-21, JaMaya applied for the Graduate Research Fellowship Program (GRFP) and a GEM Fellowship.

APPENDIXES

APPENDIX A
NEWS RELEASES

NSF Awards KY-WV LSAMP \$1 Million to Support Underrepresented Students Pursuing Graduate STEM Degrees

By [Jenny Wells-Hosley](#) June 1, 2020



KY-WV LSAMP students at a research symposium in March 2018. The program has received \$1 million in new funding from the NSF to support graduate students pursuing STEM degrees at UK. Photo by D'Avon Adkins | D.I.G. Photography.

LEXINGTON, Ky. (June 1, 2020) — The [Kentucky-West Virginia Louis Stokes Alliance for Minority Participation \(KY-WV LSAMP\)](#), spearheaded by the University of Kentucky, has been awarded over \$1 million from the National Science Foundation (NSF) to support UK graduate students pursuing degrees in the fields of science, technology, engineering and mathematics (STEM).

The grant will fund a Bridge to the Doctorate (BD) initiative for KY-WV LSAMP, a consortium of 10 colleges and universities working together to broaden participation and increase the quality and quantity of underrepresented students in STEM. The new

program will support 12 BD fellows from underrepresented populations who are pursuing graduate degrees in STEM disciplines at UK.

“Bridge to the Doctorate fellowships are prestigious awards granted to select institutions,” said Fara Williams, director of KY-WV LSAMP. “This is a great opportunity for KY-WV LSAMP and the University of Kentucky to significantly impact the recruitment and retention of students from underrepresented populations in STEM graduate programs.”

Each fellow will receive a \$32,000 per year stipend as well as support for cost of education for two years through the grant. Fellows will receive coaching, academic and community support, professional development, and access to opportunities for research, writing and presentation.

“I am excited about what the Bridge to the Doctorate program means to our campus community, and most importantly, the lives of underrepresented minority students in STEM disciplines, especially those who aspire for a terminal degree,” said Sonja Feist-Price, UK vice president for institutional diversity and co-principal investigator on the grant. “Heartfelt thanks and appreciation are extended to Fara, who played a significant role in spearheading the writing of the proposal. She remains thoughtful about the ways in which students in STEM disciplines are supported in maximizing their potential, both on and off campus.”

Since receiving renewed funding in 2018, KY-WV LSAMP has grown from 280 to 378 student participants, with over 50% of its graduating students continuing their education in graduate programs.

“LSAMP recognizes the University of Kentucky as a regional leader in providing opportunities for underrepresented students in STEM fields,” said UK Provost David Blackwell, who serves as principal investigator for the grant. “The Bridge to the Doctorate program underscores our commitment to building a stronger workforce and creating a brighter future for our state and region.”

Additional co-PIs on the new grant include Brian Jackson, dean of UK Graduate School; Johné Parker, associate professor of mechanical engineering; and Brett Spear, professor of microbiology, immunology and molecular genetics.

Students interested in applying for a BD fellowship may do so starting Monday, June 8. For information on requirements and the application process, contact Fara Williams at 859-218-6326 or fara.williams@uky.edu.

KY-WV LSAMP is a unit based in [UK's Office for Institutional Diversity](#). In addition to UK, the alliance includes Bluegrass Community and Technical College, Centre College, Jefferson Community and Technical College, Kentucky State University, Marshall University, the University of Louisville, West Virginia State University, West Virginia University and Western Kentucky University.

Named in honor of the former Ohio congressman, the Louis Stokes Alliances for Minority Participation (LSAMP) program is an alliance-based program designed to assist universities and colleges in diversifying the nation's STEM workforce by increasing the number of STEM baccalaureate and graduate degrees awarded to populations historically underrepresented. Overall, the NSF program provides funding to alliances that implement comprehensive, evidence-based, innovative and sustained strategies that ultimately result in the graduation of well-prepared, highly qualified students from underrepresented minority groups who pursue graduate studies or careers in STEM.

The University of Kentucky is increasingly the first choice for students, faculty and staff to pursue their passions and their professional goals. In the last two years, Forbes has named UK among the best employers for diversity, and INSIGHT into Diversity recognized us as a Diversity Champion three years running. UK is ranked among the top 30 campuses in the nation for LGBTQ inclusion and safety. UK has been judged a "Great College to Work for" two years in a row, and UK is among only 22 universities in the country on Forbes' list of "America's Best Employers." We are ranked among the top 10 percent of public institutions for research expenditures — a tangible symbol of our breadth and depth as a university focused on discovery that changes lives and communities. And our patients know and appreciate the fact that UK HealthCare has been named the state's top hospital for four straight years. Accolades and honors are great. But they are more important for what they represent: the idea that creating a community of belonging and commitment to excellence is how we honor our mission to be not simply the University of Kentucky, but the University **for** Kentucky.*

Marshall LSAMP students to receive support through \$1 million NSF awards



Thursday, June 4, 2020 - 08:35



Huntington - Marshall University students who participate in the Kentucky-West Virginia Louis Stokes Alliance for Minority Participation will benefit from the \$1 million award from the National Science Foundation announced Monday by the University of Kentucky.

According to [UK's release](#), the grant will fund a Bridge to the Doctorate initiative for KY-WV LSAMP, a consortium of 10 colleges and universities working together to broaden

participation and increase the quality and quantity of underrepresented students in STEM. The new program will support 12 BD fellows from underrepresented populations who are pursuing graduate degrees in STEM disciplines at UK. Each fellow will receive a \$32,000 per year stipend as well as support for cost of education for two years through the grant. Fellows will also receive coaching, academic and community support, professional development, and access to opportunities for research, writing and presentation.

Marshall's LSAMP campus coordinator and principal investigator, Maurice Cooley, said as a seasoned member of the KY-WV LSAMP alliance, Marshall University has strongly supported University of Kentucky's NSF application to become a Bridge to the Doctorate status university.

"With this great news, our LSAMP student graduates at Marshall will now have direct access to STEM doctoral programs at nearby UK, as well as to over 100 more universities around the country. We have built very close ties to UK and now our participating students will have a strong pathway to highly affordable Ph.D. degrees in numerous fields of study and research," Cooley said. "In addition to our own unique intensive supports and undergraduate research opportunities, it is time to celebrate these new opportunities for Marshall's minority STEM scholars. As the LSAMP campus coordinator and PI, I am overjoyed by this achievement and the future for our Marshall graduating scholars."

David Cartwright, campus director of the university's LSAMP program, said Marshall students have been a core part of the KY-WV LSAMP alliance for over 10 years.

"Students in LSAMP at Marshall University participate in monthly meetings that encourage and facilitate success, including tutoring, mentoring and paths to undergraduate research," Cartwright said. "Upcoming LSAMP programming includes trips to conferences for professional development such as the Women of Color and the Black Engineer of the Year Awards conferences. These two conferences are places where all people explore the challenges and celebrate the victories of underrepresented students and professionals."

According to the release, since receiving renewed funding in 2018, KY-WV LSAMP has grown from 280 to 378 student participants, with over 50% of its graduating students continuing their education in graduate programs.

Underrepresented students at Marshall who are interested in the STEM fields are encouraged to learn more about becoming involved by visiting <https://www.marshall.edu/intercultural/lisamp/> or contacting Cooley by e-mail at cooley@marshall.edu.

9 UK Grad Students Named Bridge to the Doctorate Fellows

By [Jenny Wells-Hosley](#) Sept. 8, 2020

LEXINGTON, Ky. (Sept. 8, 2020) — The [Kentucky-West Virginia Louis Stokes Alliance for Minority Participation \(KY-WV LSAMP\)](#), spearheaded by the University of Kentucky, has named nine of its first cohort of Bridge to the Doctorate (BD) fellows. The BD program will support a total of 12 graduate students from underrepresented populations who are pursuing degrees in science, technology, engineering and math (STEM) disciplines at UK.

Each fellow will receive a \$32,000 per year stipend as well as support for cost of education for two years through the grant. Fellows will receive coaching, academic and community support, professional development, and access to opportunities for research, writing and presentation.

The fellowships are supported by a \$1 million National Science Foundation (NSF) award KY-WV LSAMP received this summer. KY-WV LSAMP is a consortium of 10 colleges and universities working together to broaden participation and increase the quality and quantity of underrepresented students in STEM.

The nine fellows include:

- Edwina Barnett, a graduate of West Virginia State University, who is pursuing a master's degree in biomedical engineering at UK. Barnett's career goals are to hold an administrative/leadership position in a government agency such as the National Institutes of Health, the Centers for Disease Control and Prevention, or the U.S. Food and Drug Administration.
- Alyssa Donawa, a graduate of San Diego State University, who is pursuing a doctoral degree in computer science at UK. Donawa's research focus intersects UI/UX design and gamification strategies for attracting and retaining users in medical mobile applications. She builds iOS applications that typically serve sparse and intermittently connected networks with low densities of users. The mobile applications that she is helping to design will be used to gather results in a

delay tolerant opportunistic network and allow patients and medical staff to communicate when internet is limited or non-existent.

- Abelline Fionah, a graduate of Ball State University, who is pursuing a doctoral degree in chemistry at UK. Fionah's past research centered on the synthesis of multicomponent heterostructures for enhanced light-driven degradation of organic contaminants.
- Xava Grooms, a graduate of California State University, Fullerton, who is pursuing a doctoral degree in computer science at UK. Grooms' research focuses on leveraging delay tolerant networks and opportunistic wireless communications to facilitate secure and efficient data transfer in multiple unmanned aerial vehicle (UAV) systems to mitigate wireless connectivity issues during natural disasters. She aspires to achieve a lifelong career helping others as a tenure-track faculty member at a Research 1 institution.
- Julia Parker, a graduate of UK, who is pursuing a master's degree in biosystems engineering at UK. Parker's research focuses on the development of methods for the depolymerization of lignin, this being one of the main constituents of biomass. In so doing, her work aims to convert this largely waste material into a sustainable source of chemicals and fuels, thereby significantly improving the economics of biorefineries.
- Alexis Smith, a graduate of the University of Mississippi, who is pursuing a doctoral degree in biochemistry at UK. Smith's research focuses on understanding the molecular mechanisms of platelet exocytosis and the proteins involved in the process. Her career goal is to be involved in science policy and advocate for minority and rural communities.
- Kayla Titalii-Torres, a graduate of Washington State University, who is pursuing a doctoral degree in biology at UK. Titalii-Torres' research focuses on the short and long-term effects of high blood glucose on retinal development and regeneration using the zebrafish as a model. Long term, she is interested in continuing to conduct research and influencing policies that affect scientific research, communication and education.
- Andres Vindas Melendez, a graduate of the University of California, Berkeley and San Francisco State University, who is pursuing a doctoral degree in mathematics at UK. Vindas Melendez's career aspiration is to become a mathematics professor to advance mathematical knowledge through research and to inspire interest for mathematical discovery among students.
- JaMaya Wilson, a graduate of Dillard University, who is pursuing a doctoral degree in materials science and engineering at UK. Wilson plans to create a nonprofit that exposes high school students in underrepresented communities to the possibilities within the STEM field. Her goal is to give students a space to feel confident in their skills through tutoring, teaching and mentorship.

"We are excited to support these talented students," said Fara Willaims, director of KY-WV LSAMP. "They are becoming a cohesive cohort and helping us to learn and develop programming that will increase recruitment and retention of URM students in STEM graduate programs now and in the future."

Since receiving renewed funding in 2018, KY-WV LSAMP has grown from 280 to 378 student participants, with over 50% of its graduating students continuing their education in graduate programs.

"LSAMP recognizes the University of Kentucky as a regional leader in providing opportunities for underrepresented students in STEM fields," said UK Provost David Blackwell, who serves as principal investigator for the grant. "The Bridge to the Doctorate program underscores our commitment to building a stronger workforce and creating a brighter future for our state and region."

Three more graduate students will be selected for this cohort of fellows. Applications will be accepted until all positions are filled. For information about KY-WV LSAMP or the Bridge to the Doctorate Fellowship, visit www.uky.edu/KYWV-LSAMP and/or contact Fara Williams at 859-218-6326 or fara.williams@uky.edu.

KY-WV LSAMP is a unit based in UK's Office for Institutional Diversity. In addition to UK, the alliance includes Bluegrass Community and Technical College, Centre College, Jefferson Community and Technical College, Kentucky State University, Marshall University, University of Louisville, West Virginia State University, West Virginia University and Western Kentucky University.

Named in honor of the former Ohio congressman, the Louis Stokes Alliances for Minority Participation (LSAMP) program is an alliance-based program designed to assist universities and colleges in diversifying the nation's STEM workforce by increasing the number of STEM baccalaureate and graduate degrees awarded to populations historically underrepresented. Overall, the NSF program provides funding to alliances that implement comprehensive, evidence-based, innovative and sustained strategies that ultimately result in the graduation of well-prepared, highly qualified students from underrepresented minority groups who pursue graduate studies or careers in STEM.

The University of Kentucky is increasingly the first choice for students, faculty and staff to pursue their passions and their professional goals. In the last two years, Forbes has named UK among the best employers for diversity, and INSIGHT into Diversity recognized us as a Diversity Champion three years running. UK is ranked among the top 30 campuses in the nation for LGBTQ inclusion and safety. UK has been judged a "Great College to Work for" three years in a row, and UK is among only 22 universities in the country on Forbes' list of "America's Best Employers." We are ranked among the top 10 percent of public institutions for research expenditures — a tangible symbol of our breadth and depth as a university focused on discovery that changes lives and communities. And our patients know and appreciate the fact that UK HealthCare has been named the state's top hospital for four straight years. Accolades and honors are great. But they are more important for what they represent: the idea that creating a community of belonging and commitment to excellence is how we honor our mission to be not simply the University of Kentucky, but the University **for** Kentucky.*

UK Graduate School's Preparing Future Faculty Program Shares Expertise Home and Abroad

By **Danielle Donham** Friday



Morris Grubbs (back row, center) with faculty and graduate assistants at the new faculty orientation at Abdullah Gull University. Also pictured are three professional development colleagues: Elif Bengu, Aslihan Muazzez Unsal and Suphan Bakkal.

LEXINGTON, Ky. (Oct. 18, 2019) — The [University of Kentucky Graduate School's Preparing Future Faculty \(PFF\)](#) program has been cultivating future generations of college and university teachers for years, and now it has taken its expertise abroad at the request of two universities in Turkey.

The Preparing Future Faculty curriculum, now in its 25th year, provides graduate students across disciplines with guidance in exploring and preparing for a faculty career. PFF initiatives include coursework, workshops, shadowing, and practica and is made

possible through collaborations with the [College of Education's Department of Educational Policy Studies and Evaluation](#), the [Center for the Enhancement of Learning and Teaching](#) and other units across campus.

"Graduates of our PFF and Graduate Certificate in College Teaching and Learning curriculum have significant advantages in landing faculty positions and starting their faculty careers with confidence and momentum," said [Morris Grubbs](#), assistant dean of the UK Graduate School and director of Graduate Student Professional Enhancement. He also teaches one of the core courses in the PFF program.

Among the goals of the program are to assist graduate students and postdoctoral trainees in learning in-depth about faculty roles and responsibilities at a variety of types of institutions of higher education and in acquiring the skills in active teaching and reflective practice needed to succeed in faculty positions.

UK is sharing the curriculum of this successful program with two research universities in Turkey, Sabanci University in Istanbul and Abdullah Gull University in Kayseri. They hosted Grubbs from Sept. 3-12 to speak with faculty, students and administrators on the rewards and challenges of a PFF program.

This is the first invitation extended to UK to assist in implementing a PFF program abroad.

"The PFF program helps build the knowledge and skills Ph.D. students need to excel in teaching and service, as well as to nurture a fruitful marriage of research and teaching," Grubbs said. "It's exciting to see institutions abroad embrace PFF and build their own versions designed specifically around their distinct higher education systems."

Upon completion of the grant project in Turkey, titled "Adaptation of a Preparing Future Faculty Program for the Turkish University Context," approximately 430 graduate students across the two universities are expected to benefit from the program.

The grant project is funded by the U.S. Embassy in Ankara, Turkey. Grubbs' visit marked the initial phase of the project that runs through August 2020.

Grubbs has served as the administrative director of PFF and the Graduate Certificate in College Teaching and Learning since 2007. Jeffery Bieber, professor of educational policy studies and evaluation, serves as the faculty director. Linda Worley, professor of German in the Department of Modern and Classical Languages, Literatures and Cultures, is faculty director emerita and a UK PFF co-founder.

In response to shifts in the job market for graduates with doctoral degrees, PFF at UK has expanded to include a Preparing Future Professionals track for graduate students and postdoctoral trainees to explore and prepare for careers outside of academia.

UK was one of the original 17 research universities in the U.S. in the mid 1990s to receive grant funding from the Council of Graduate Schools, The Pew Charitable Trusts, National Science Foundation and other sources to begin PFF initiatives. More information about UK's PFF/P program can be found [here](#).

The University of Kentucky is increasingly the first choice for students, faculty and staff to pursue their passions and their professional goals. In the last two years, Forbes has named UK among the best employers for diversity, and INSIGHT into Diversity recognized us as a Diversity Champion three years running. UK is ranked among the top 30 campuses in the nation for LGBTQ inclusion and safety. UK has been judged a "Great College to Work for" two years in a row, and UK is among only 22 universities in the country on Forbes' list of "America's Best Employers." We are ranked among the top 10 percent of public institutions for research expenditures — a tangible symbol of our breadth and depth as a university focused on discovery that changes lives and communities. And our patients know and appreciate the fact that UK HealthCare has been named the state's top hospital for four straight years. Accolades and honors are great. But they are more important for what they represent: the idea that creating a community of belonging and commitment to excellence is how we honor our mission to be not simply the University of Kentucky, but the University **for** Kentucky.*

APPENDIX B

KY-WV LSAMP BD
COHORT I DOCUMENTS

BRIDGE TO THE DOCTORATE

PRIORITY DEADLINE: JULY 8

The Kentucky-West Virginia Louis Stokes Alliance for Minority Participation (KY-WV LSAMP) Bridge to the Doctorate (BD) program is funded by the National Science Foundation in order to increase the recruitment and retention of students from underrepresented populations who complete graduate degrees in science, technology, engineering, and mathematics (STEM) disciplines. BD Fellows will receive two years of support from the grant. Fellows will receive financial support, coaching, academic and community support, professional development, and access to opportunities for research, writing, and presentation. BD Fellows will receive continuing support from the university at the conclusion of the grant. KY-WV LSAMP is a consortium of ten institutions.

Eligibility:

- US Citizen or permanent resident
- Baccalaureate degree in a STEM discipline earned, or to be earned, at an LSAMP institution
- Priority given to students who participated in LSAMP as an undergraduate
- Commitment to the pursuit of a Ph.D. in a STEM discipline
- Admitted to the University of Kentucky in a STEM graduate program

Fellowship Benefits and Features:

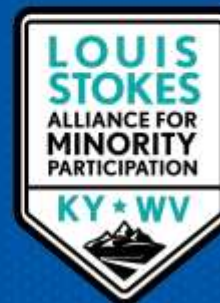
- \$32,000/year stipend for two years
- Tuition and health insurance for two years
- Community of support with faculty, staff, and students
- STEM professional development
- Grant writing opportunities and support
- Support beyond the two years of the fellowship

Contact: Fara Williams, Project Director, fara.williams@uky.edu, 859-218-6326

Website link: <https://www.uky.edu/kywv-lsamp/bridge-doctorate>



An Equal Opportunity University



Bridge to the Doctorate was publicized through the LSMRCE.

Fri 6/12/2020 8:00 AM

Louis Stokes Midwest Regional Center of Excellence <contact@lsmrce.

REUs, Graduate Programs, Workshops, and Employment Opportunities!

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In this Issue...

- [Student Summer Speaker Series](#)
- [PR-CLIMB PUERTO RICO - Chemical Learning Integrated in Materials and Biomolecular Application](#)
- [PRIME \(Pomona Research in Mathematics Experience\)](#)
- [PRIME \(Pomona Research in Mathematics Experience\)](#)
- [KY-WV LSAMP Seeking Applicants for Bridge to Doctorate Fellowship](#)
- [LSU Department of Chemistry Seeking Applicants for Graduate Program](#)
- [CalTech 9mo Research Position for BS or MS in Chemical Biology](#)
- [Boise State Seeking MS Student in Biology for 9-month, Renewable Position Studying Raptors](#)

GRADUATE SCHOOL

KY-WV LSAMP Seeking Applicants for Bridge to Doctorate Fellowship

The University of Kentucky (UK) is now accepting applications for Bridge to the Doctorate (BD). BD will provide two years of support for students from underrepresented populations who are pursuing graduate degrees in science, technology, engineering, and mathematics (STEM) disciplines at UK. This funding is provided through a grant from the National Science Foundation to the Kentucky-West Virginia Louis Stokes Alliance for Minority Participation (KY-WV LSAMP) program. [Read more...](#)



Kentucky – West Virginia Louis Stokes Alliance for Minority Participation
in Science, Technology, Engineering, and Mathematics (STEM)

BRIDGE TO THE DOCTORATE PROGRAM APPLICATION

Phone: 859-218-6326; 859-323-2722

www.uky.edu/kywv-lsamp



Demographic and Contact Information:

Date of Application: _____ Full Legal Name: _____

Current Mailing Address: _____
Street Address City State Zip

Permanent Mailing Address: _____
Street Address City State Zip

Email Address: _____ Preferred Phone: _____ Alt. Phone: _____

Date of Birth: _____ Ethnicity: American Indian/Native American

(Check all that apply) Alaska Native or Pacific Islander

US Citizen: Yes No

African American

Permanent US Resident (If not US Citizen): _____

Hispanic/Latino

Yes No

Other: _____

First Generation College Student: Yes No

Gender (Please fill in as you identify): _____

Have you served in the military: Yes No; If yes, list branch(es) and dates of service: _____

Undergraduate Education:

Institution: _____ Date of Graduation: _____

Major(s): _____ Overall GPA: _____

Academic Department in which you were/are enrolled: _____

Undergraduate Faculty Advisor/Mentor: _____ Phone: _____ Email: _____

*LSAMP Program in which you are/were a participant: _____

LSAMP Program Contact Name: _____ Phone: _____ Email: _____

Other Undergraduate Program Affiliations (McNair, TRiO, etc.): _____

*Note: the LSAMP program will be contacted in order to verify your participation.



Kentucky – West Virginia Louis Stokes Alliance for Minority Participation
in Science, Technology, Engineering, and Mathematics (STEM)

BRIDGE TO THE DOCTORATE PROGRAM APPLICATION

Phone: 859-218-6326; 859-323-2722

www.uky.edu/kywv-lsamp



Graduate Education (if applicable):

Name of Institution: _____ Department: _____

Mentor/Advisor: _____ Phone: _____ Email: _____

Indicate degree earned, if any: _____

Research Emphasis: _____

Have you applied for or been awarded other graduate fellowship support? Yes No
If yes, please indicate the source(s) and amount of support. _____

Past Experience and Future Plan Information:

What is your ultimate degree objective? If other, specify: _____

MA/MS	PhD	MD	MD/PhD	Not Sure	Other
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What are your future career aspirations? (Check all that apply.) If other, specify: _____

Professor	Corporate/Private Industry	Government Agency/Lab	Entrepreneurship	Medical Doctor	Other
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What department / program are you applying for at the University of Kentucky? _____

Have you completed an UK graduate school application? Yes No

Have you been accepted to an UK graduate school program? Yes No Not Notified Not Applicable

List your past and present professional organization participation and community involvements.

Briefly comment on your special interests and/or hobbies.



Kentucky – West Virginia Louis Stokes Alliance for Minority Participation
in Science, Technology, Engineering, and Mathematics (STEM)

BRIDGE TO THE DOCTORATE PROGRAM APPLICATION

Phone: 859-218-6326; 859-323-2722

www.uky.edu/kywv-lsamp



Please attach the following documents:

1. Separate document providing answers to the following prompts (Please limit answers to ~100/500 Characters)
 - a. Please provide a short statement describing your research interests
 - b. Please provide a short statement describing your anticipated career path
 - c. Please provide a short statement describing your research and career needs and/or expectations
2. Copy of your most current CV or Resume including any conference presentations and publications
3. Two letters of recommendation from faculty members who have worked with you and can speak to your research abilities, general character, academic performance, dependability, and ability to work with others

Certification of Application:

By my signature, I hereby certify that:

1. All statements in this application are true and complete to the best of my knowledge and understanding.
2. My academic/career goals include pursuit of a Ph.D.
3. I authorize the investigation of all statements contained in this application and further authorize any person, school, current and past organizations in this application to provide the fellowship program with records, information, and opinions that may be useful in making a determination and for federal reporting purposes. I release all informants from any liability for damage that may result from furnishing information and opinions which are truthful and made in good faith to the fellowship program. I understand that, should this application contain any false or misleading information, my application may be rejected.
4. I have submitted or plan to submit an application to the University of Kentucky for the 2020 - 2021 academic year.
5. I fully understand that, if accepted, continuous participation in the Bridge to the Doctorate Program depends on meeting the academic requirements set forth by the University of Kentucky Graduate School, the academic department in which I am enrolled, the National Science Foundation, and the KY-WV LSAMP BD Program.
6. I agree that, if accepted, this program will be considered full-time employment (.50 FTE Graduate Assistantship), and that I cannot be employed by any other agency.
7. I understand that, if accepted to the program, I will be required to complete and sign a Memorandum of Understanding (MOU).
8. Upon acceptance to the program, I grant permission to KY-WV LSAMP to use my photograph, selected quotes and/or profile information in publicity.

Signature

Date

KY-WV LSAMP is funded by the National Science Foundation grant number HRD 1826763. Active KY-WV LSAMP Bridge to the Doctorate cohorts are sponsored by the National Science Foundation grant numbers HRD 2004718.

Any opinions, findings, and conclusions or recommendations expressed in KY-WV LSAMP material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation or the University of Kentucky.

University of Kentucky and KY-WV LSAMP do not discriminate on the basis of race, color, national origin, sex, disability, ethnicity, religion, sexual orientation, veterans' status, or age in its programs and activities. The following person has been designated to handle inquiries regarding non-discrimination policies: Title IX Coordinator, 013B Main Building Lexington, KY 40506, 859-257-0927.



KY-WV Louis Stokes Alliance for Minority Participation
 University of Kentucky
 Bridge to Doctorate Fellow Nomination Form



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Student Name

University of Kentucky ID

--

Nominator Name, Phone Number, and Email Address

--

Nominator Position and Department

Student's Faculty Connections in the Department (list up to three):

--	--	--

Faculty Name

Faculty Position

Role to Student (ie advisor, mentor, etc.)

--	--	--

Faculty Name

Faculty Position

Role to Student (ie advisor, mentor, etc.)

--	--	--

Faculty Name

Faculty Position

Role to Student (ie advisor, mentor, etc.)

Average time to degree for your department.

MS:

Ph.D.:

Other Degree (Specify):

Department's on-boarding process for graduate students.

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KY-WV Louis Stokes Alliance for Minority Participation
University of Kentucky
Bridge to Doctorate Fellow Nomination Form



Benefits that will be provided to the Fellow **by the department during the two years of NSF funding**. Examples include, but are not limited to: research supplies, use of specific equipment, rotation of labs, scholarship opportunities, etc. Include details that will inform the selection committee of the level of department support the student has now.

Benefits that will be provided to the Fellow **by the department after the two years of NSF funding**. Examples include, but are not limited to: graduate research assistantship, graduate teaching assistantship, scholarship opportunities, etc. Please designate if the benefit will be "guaranteed with satisfactory degree progress" or an opportunity for which the student will be encouraged to apply. Include details that will inform the selection committee of the level of department support the student has going forward.

Are you, or others in your department, interested in creating, or participating in, professional development workshops meant to enrich the experience of all Bridge to the Doctorate fellows?

Yes

No

Not Sure

If yes, please provide names, contact information, and topics.

APPENDIX C

KY-WV LSAMP BD
MENTOR TRAINING SESSION
THURSDAY, FEBRUARY 11, 2021

KY-WV LSAMP Bridge to the Doctorate (BD)

Mentor Training Session,

Thursday, February 11, 2021, 11:30 am

The purpose of this session is to provide a venue for faculty (who are serving on the KY-WV LSAMP Bridge to the Doctorate advisory board and/or as faculty mentors/advisors to BD Fellows) to learn and discuss best practices regarding mentoring in general and graduate students in particular. Dr. Brett Spear, BD Co-PI, has presented to faculty across the country on mentoring. He presented information and asked for discussion/participation from the attendees.

Those present were: Ramkumar Annamalai, mentor; Luke Bradley, advisory board member; Ben Braun, mentor and advisory board member; Czarena Crofcheck, mentor; Isabel Escobar, mentor; Larry Holloway, PI representative; Johné Parker, Co-PI; Willie Pearson, evaluator; Cleo Price, advisory board member; David Miller, ex-officio advisory board member; Eduardo Santillan-Jimenez, advisory board member; Brett Spear, Co-PI; Wally Whiteheart, mentor; and Fara Williams, director.

Some of the material for the session was created by Sharon Milgram, Director of the NIH Office of Intramural Training and Education (OITE). More on Dr. Milgram and OITE can be found below and at the website links provided.

[Message from OITE Director, Dr. Milgram – OITE Career Blog – NIH Office of Intramural – Training and education](#)

Dear All, I know this is a long message, but it is an important one. I am writing to encourage all of you to pause for a moment to consider your plans for stress management, health and wellness as we enter the cold winter months.

www.oitecareersblog.od.nih.gov

<https://www.training.nih.gov/home>; <https://oitecareersblog.od.nih.gov/2020/11/04/message-from-oite-director-dr-milgram/>

Here is a link to a recording of the session.

<https://uky.zoom.us/rec/share/C5gzMUvkbAhNIsw8kvNiE0KjAydAlyrM00UbhTd8Z-XyH9PAw0QNNs-WGusIJzxL.fUUS3GPzL6Tv5pRe>

Some notes from the session include:

Have high expectations but also a nurturing environment – **balance is key**. If expectations are high but not enough nurturing, or if nurturing but not enough expectations... the student will not reach their full potential and may even quite before reaching their goals.

Students – establish good habits... Expect students to be an active participant, maintain good lab notebooks and organized workbench, and be responsible.

Establish student independence –

- High expectations, but be realistic
- Students develop at different rates

- Start off slow, but as students develop skills, give them more responsibility
- (Mentor) is primarily responsible for training students, but others can help

Failure...help the student to create an atmosphere where failure is a learning experience and not a “negative only” experience.

Resilience... learning resilience will help the student to continue moving forward even when they encounter obstacles or failed experiments.

“Power of Yet”... Instead of “I am not good in ____.” Make it “I am not good in ____, **YET.**” Growth mindset vs. fixed mindset.

Imposter Fears. Many of us have these thoughts/feelings.

Feedback – It’s not just what you say, but also how you say it.

Communicate, communicate, communicate.

Praise and criticize appropriately. Praising in front of others is ok, but be careful how it impacts others. Criticism should be a private conversation. Don’t compare students to each other.

Maintain professional boundaries. Full-time job – 40-45 hours per week, but do not expect 80 hours per week. Involve the entire lab in making deadlines, but know students have lives beyond their degree program.

Positive mentoring vs. negative mentoring.

One attendee pointed out that the UK Math Department now has a graduate advising policy.

Final points

- You are not training students to be you.
- Don’t assume a student’s trajectory.
- Each student is unique. Equality is not Equity.
- Develop camaraderie.
- Be Authentic: “You are what you are and you ain’t what you ain’t.” (John Prine)
- Celebrate success.
- Great things happen when students gain confidence!!!

APPENDIX D

KY-WV LSAMP BD
COHORT I YEAR I EVALUATION

BRIDGE TO THE DOCTORATE PROGRAM

FORMATIVE EVALUATION: YEAR 1

By

Willie Pearson, Jr., Ph.D., Lead Evaluator

Cheryl B. Leggon, Ph.D., Co-Evaluator

Claudia Colhoun, M.A., Transcriber

Submitted to:

David Blackwell, PI

and

Brian Jackson, Co-PI

Johne Parker, Co-PI

Brett Spear, Co-PI

May 28, 2021

Background

In 2020, the Kentucky-West Virginia (KY-WV) LSAMP was awarded a “Bridge to the Doctorate” (BD) grant to support up to 12 students from underrepresented populations to pursue graduate degrees in science, technology, engineering, mathematics (STEM) disciplines at the University of Kentucky (UKY). During Year 1, eight students were selected. (*Ethics Note: One of the selected Fellows is the spouse of a LSAMP staff member. To avoid any semblance of conflict of interest, the Program Director reported that the staff member did not participate in any component of the selection process.* However, the staff member did assist the Program Director in scheduling meetings.) Except for one Fellow (Spring 2021), all enrolled in Fall 2020. The grant provides financial support for up to two years. To facilitate retention to degree, the Fellows’ respective department provides financial assistance after the grant aid expires.

The goals and objectives of the program include providing Fellows with coaching, academic and community support as well as professional development. Additionally, Fellows have opportunities to engage in research and publishing. Each Fellow has a mentor to assist them in achieving their personal and professional goals. The Project Director posted the application requirements online, especially through the KY-WV LSAMP Alliance website.

Methodology

This formative evaluation focuses on the extent to which the program met its first-year goals and objectives. To do so, the evaluation employed a mixed methodology to collect data comprised of qualitative (unobtrusive observation, interviews and document reviews) and quantitative (survey). Qualitative data were collected by interviewing the following: senior administrator (N=1); research mentors (N=5); Program Director (N=1); and co-chair and members (N=2) of the Advisory Board. Additional qualitative data were derived by observing a *mentor training session* conducted by one of the Co-PIs, and a review of relevant documents. A total of nine individuals were interviewed (100 percent response rate). Quantitative data were derived from an e-survey administered to all Fellows (N=8, 100 percent response rate). (*Ethics Note: The original evaluation plan included a focus group with Fellows. Once the evaluators confirmed that one of the Fellows was the spouse of a staff member, data collection was changed to a survey. This avoided having obvious conflict of interest.*)

Findings

Qualitative

Virtual Mentor Training Session. The session was conducted by one of the Co-PIs, who shared personal experiences as a mentor and director of graduate studies. Focusing on the objectives as mentors, the presenter emphasized the following:

- Preparing proteges for success in the lab, career and anticipating future challenges
- Nurturing resilience
- Overcoming imposter syndrome
- Balancing high expectations and nurturing
- Establishing good habits from the beginning by assigning articles to read, lab chores, notebook keeping instructions, etc.
- Praising and criticizing appropriately
- Distinguishing between positive versus negative mentoring
- Failure as a great teacher
- Boundary maintenance—mentor is not a professional counselor
- Providing honest feedback

The central message is to prepare mentors to have the necessary skills to provide an environment to prepare graduate students to succeed in their careers. This presentation was exceptionally well organized and delivered.

Interviews with members of the Advisory Board. Due to the demands of their senior administrative responsibilities, the interviewees relied on the Program Director for periodic briefings on the status of the BD. Given the COVID-19 restrictions, the communication was virtual. Based on reporting by the Program Director, interviewees believe that the program was accomplishing its Year 1 goals. *One interviewee commented:* “I’ve been made aware of what is in the proposal, and I’ve seen the annual report. Everything that... (Program Director) does, I am copied on.” *Another member said:* “The primary goals and objectives of the program are to recruit and develop underrepresented minorities into STEM-oriented doctorate programs. I think with the broader goal of creating the next generation of researchers and faculty in STEM that will serve as future mentors.” *One member adds:*

It is my understanding that we have not struggled to get applicants. That doesn’t mean that we wouldn’t like to have more applicants. At UKY there has been a strong institutional culture to promote diversity and underrepresented minorities. There are other programs in the institution that also support graduate student diversity, including programs that support mentorship of underrepresented minorities. Given the different programs, we were not starting from ground zero. We were able to use LSAMP to move us to the next level and advance a great set of students to another level that you would not have been able to do otherwise.

When asked about their assessment of the program implementation to date, all members expressed satisfaction—even in the context of the challenges associated with the pandemic. One member succinctly captures the essence of the discourse:

I believe that the ... (Project Director) has worked very successfully at building a community among the students with a set of events and other activities with the mentorship and professional development and other things that these students get. All seems to have progressed well. I know that a few of the departments have been very thrilled and excited about the opportunities presented by the program. Overall, I feel very positive about what has been accomplished.

When asked what types of academic support are provided to the students, one member admitted: “I don’t have a good grasp for exactly what academic support there is...” However, the member added: “The academic support really flows through advisors, mentors and the students’ departments. ...there are also professional development type activities. That might not qualify, necessarily, as academic support, but it is really important professional support for these individuals to be able to be successful in their future careers.”

When asked if COVID had any impact on the implementation of the program, one member explained:

There was a period when our research operations were suspended under pandemic restrictions. I would expect for some students who are working in labs that there may have been some initial impact. Of course, this first cohort, most of the time in the beginning of their programs, they’re spending a lot of it in classrooms as opposed to the labs. I’m not sure that the lab restrictions necessarily impacted all of them, but maybe a few. Finally, I would just say that the opportunity for students to engage in face-to-face interactions in a community with their faculty and their advisors and their fellow graduate students in their cohort had to have been impacted by the pandemic.”

Another member added:” ...the COVID issue has definitely impacted. It will be good to see what happens next year. ...if you look over a 2- to -3-year period, there would be a better picture of the success or challenges of the program.”

When asked how frequently they had attended a Board meeting, one member commented: “I think, one meeting or so...I’m involved regularly in some email discussions.”

Mentors. Most mentors did not remember having an orientation to the program. Consequently, some were not as familiar as others with the goals and objectives of the Bridge to the Doctorate Program. *One commented:* “Because I didn’t get an orientation... I don’t know the goals and objectives.” One mentor who was more familiar with the program goals gave this detailed response:

... to provide the resources—financial advising and mentorship—to matriculate through the PhD program. In particular, providing skills and advice for the students who are in the program may not typically receive. As well as giving them

information on how to select advisors, proceed with research in a way to be successful. Because there are many hurdles that they can face. One being in the PhD program and then two, working with faculty in environments that may not be inviting to them.

The above comment reminded another mentor that: "...the Bridge to the Doctorate provides two years of funding and then the department support a student for three years. I think that's the description and objectives."

All mentors agreed that the program has the necessary resources to meet its goals and objectives. Also, there was consensus that their roles as mentors were impacted by the COVID protocol restricting access to their labs. Moreover, Fellows were restricted from the lab much of the academic year. As mentioned in the mentor discussion above, some Fellows turned their focus to reviewing relevant literature and Zoom interactions with their lab team. There was variable easing of campus restrictions during the Spring term. At the time of the virtual site visit, more Fellows reported participating in some form of in-person research.

There was some confusion about which mentors were scheduled to meet with the evaluators. One mentor joined the Zoom focus group late because of uncertainty regarding a formal invitation. The individual was not on the original list provided by the Program Director. One mentor explained the confusion: "... (Program Director) sent us an email with a different schedule." Because the evaluators must receive individual consent from interviewees before proceeding, this meant taking additional time to secure the late mentor's consent.

Quantitative

Survey. Data were derived from all Fellows (N=8, 100 percent response rate). In a written statement at the start of the survey, Fellows were informed that their participation was voluntary and that only the evaluators had access to the survey data. All Fellows consented to take the survey.

Demographics of Fellows. Among the eight Fellows there were: 7 females and 1 male; 6 were Black or African American, 2 were American Indian/Alaska Native, Asian or Pacific Islander, and 1 White/Caucasian; and 6 were non-Hispanic and 2 were Hispanic. Only one Fellow reported having a parent or sibling who has a baccalaureate degree or higher in a STEM field. In terms of Fellows' career plans, **one** reported academe, **four** government, and **three** "other."

Undergraduate education. All Fellows attended an LSAMP institution; among these, six reported participating in LSAMP in college. *When asked how they found out about the Bridge to the Doctorate at the UKY, three* found out from the Program Director, *one* from LSAMP, *two* from undergraduate advisor, *one* from a mentor, and *one* by "word of mouth."

Graduate education. As regards graduate school: *two* applied to the UKY; *five* applied to other graduate schools; and *one* was already pursuing a PhD at UKY. When asked were you accepted by any of the graduate institutions to which you applied, *four* said yes, *two* said no, and *two* did not answer the question. Three of the institutions where they were accepted were Bridge to the

Doctorate institutions, while four were not; one Fellow did not respond to this question. Among the reasons Fellows decided to attend UKY were quality of the interview process (*two*), funding (*three*) or research interests aligned with faculty member (*three*). Six Fellows are pursuing a doctorate degree, while two are enrolled in master’s programs. (*See the table below for degree fields*):

Table 1: Fellows’ undergraduate and graduate degree fields

FIELD	Undergraduate	Graduate
Biology	1 (pre-med)	1
Biomedical Engineering	0	1
Biosystems Engineering	1	1
Chemistry	1	0
Computer Science	1	2
Materials Engineering	0	1
Mathematics	1	1
Mechanical Engineering	1	0
Molecular & Cellular Biochemistry	0	1
Physics	1	0
Zoology	1	0

Seven out of eight Fellows indicated having a mentor; among these seven, six selected their mentor. Five reported that their mentor is in their field. On a scale of 1 to 5 (1= very dissatisfied and 5=very satisfied), four of the seven Fellows indicated being **satisfied/very satisfied** with their mentor. It is noteworthy that nearly as many (*three*) were **neither dissatisfied nor satisfied** (one of whom complained that the mentor was too demanding).

As regards *academic advisor*, four Fellows’ advisor is also their mentor. All advisors and Fellows were in the same field. On the 5-point satisfaction scale, **five were satisfied/very satisfied** with their *advisor*. As was the case for the mentor, three were **neither dissatisfied nor satisfied** with their advisor for two reasons: the advisor was “too demanding”, and the experience was “not as hands-on as I would like.”

Program Goals. All Fellows understood the goals of the program. Among their responses:

- Increase the participation/representation of historically marginalized/underrepresented groups in STEM and in the academy.
- Develop a diverse pool of STEM graduate students and support them in pursuing a doctorate in STEM.
- Provide a support system and professional development for underrepresented minorities in STEM.

Professional development activities. On a 5-point satisfaction scale, Fellows were asked to indicate their satisfaction with the following professional development activities (7 Fellows responded):

- *Coaching.* **Six** were **satisfied** and **one** was **very satisfied**.
- *Engaging in research.* **Two** were **very satisfied**, **four** were **satisfied**, and **one** was **neither dissatisfied nor very satisfied**.
- *Professional presentation skills.* **Five** were **very satisfied** and **two** were **satisfied**.
- *Courses.* **One** was very satisfied; **four** were satisfied; **two** were **neither satisfied nor dissatisfied**. The one Fellow reported that the reason for a dissatisfaction rating was the unavailability of critical courses.
- *Preparation for courses.* **Six** were prepared, and **one each** was “well prepared” or “very well prepared.” One Fellow commented: “courses varied in difficulty/time commitments. Many were in a structure I had not taken before (e.g., journal clubs or multiple lecturers).” Six respondents said that the COVID shutdown affected their academic performance (i.e., “it made it hard to stay motivated to do work; days just blended together.”)
- *Professional scientific association membership.* Except for one Fellow, all belonged to a scientific association in their field.

Overall satisfaction with experience during the academic year: **Five** were **satisfied** and **three** were **very satisfied**. When the Fellows were asked what they can do to enhance their performance in the program, the most common response was: participate in more meeting discussions. Significantly, all Fellows indicated that they would recommend the Program to a peer. When asked why, **three** cited the *professional development*, and **five** said program support and networking.

Recommendations

- *Orientation.* Develop orientation modules to inform the various stakeholders of the goals and objectives of the program, as well as their roles and responsibilities in the program.
- *Communication with departments.* It would be useful for the Program Director to discuss (or re-enforce) the goals and objectives of BD with Directors of Graduate Studies and Chairs of Departments. Specially, the focus should be on the expectations and responsibilities of the Fellow, department, mentor and advisor. These discussions should highlight the importance of a welcoming and supportive environment.
- *Communication with Focus Group members.* Project Director should inform interviewees that they cannot participate in the focus group if they arrive later than five minutes after the focus group starts, because consent is required before recording the interview.
- *Communication with other programs in the institution that support graduate student diversity and mentorship of underrepresented minorities.* Opportunities to share what works and what could work better, and how these programs might leverage their resources by working together when feasible.
- *In-person events.* Invite a diverse group of external speakers, especially women.
- *Meetings.* Some Fellows suggested a change in the frequency of meetings. One Fellow sums the group's sentiment: "Bi-weekly meetings would be enough rather than weekly meetings. The meetings were great but can be a lot particularly if you're taking a full load of courses and in the research lab."
- *Conflict of Interest.* In the future, there should be transparency in order to avoid any semblance of impropriety. Specifically, having a spouse privy to a confidential evaluation of the program and its staff would be highly inappropriate.

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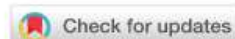
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APPENDIX E
BD FELLOW
PUBLICATION ABSTRACTS



From the journal:
CrystEngComm

Cu₂O nanoparticle-catalyzed synthesis of diaryl tetrazolones and investigation of their solid-state properties†



Thomas E. Reason,^a Benjamin Goka,^a Jeanette A. Krause,^b Abelline K. Fionah,^a Elsayed M. Zahran ^a and Sundeep Rayat ^{a,†}

Author affiliations

Abstract

An efficient and versatile method for the synthesis of 1,4-diaryl tetrazolones **1** is reported which involves C–N coupling of aryl tetrazolones **2** with aryl boronic acids **3** in the presence of Cu₂O nanoparticles under an oxygen atmosphere and DMSO as solvent. The reaction tolerates a variety of electron donating and electron withdrawing substituents on both substrates and produces the desired 1,4-diaryl tetrazolones **1** in moderate to good yields. In the crystal lattice, the molecules exhibit π⋯π stacking interactions between the adjacent layers as well as weak through-space electrostatic C–H⋯O interactions involving the pendant rings and tetrazolone carbonyl. 1-(4-Methoxyphenyl)-4-(3-tolyl)-1,4-dihydro-5*H*-tetrazol-5-one **1bk** and 1-(3-fluorophenyl)-4-(4-methoxyphenyl)-1,4-dihydro-5*H*-tetrazol-5-one **1be**, differing only in the presence of one group (methyl or fluoro), exhibited an identical pattern of noncovalent interactions in the solid-state. Hirshfeld surface analyses have also been performed to visualize intermolecular interactions.



This article is part of the themed collection: [Supramolecular & Polymorphism](#)



Proteasome-Mediated Regulation of Cdhr1a by Siah1 Modulates Photoreceptor Development and Survival in Zebrafish

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Congenital retinal dystrophies are a major cause of unpreventable and incurable blindness worldwide. Mutations in CDHR1, a retina specific cadherin, are associated with cone-rod dystrophy. The ubiquitin proteasome system (UPS) is responsible for mediating orderly and precise targeting of protein degradation to maintain biological homeostasis and coordinate proper development, including retinal development. Recently, our lab uncovered that the seven *in absentia* (Siah) family of E3 ubiquitin ligases play a role in optic fissure fusion and identified Cdh1a as a potential target of Siah. Using two-color whole mount *in situ* hybridization and immunohistochemistry, we detected *siah1* and *cdhr1a* co-expression as well as protein localization in the retinal outer nuclear layer (ONL), and more precisely in the connecting cilium of rods and cones between 3–5 days post fertilization (dpf). We confirmed that Siah1 targets Cdh1a for proteasomal degradation by co-transfection and co-immunoprecipitation in cell culture. To analyze the functional importance of this interaction, we created two transgenic zebrafish lines that express *siah1* or an inactive *siah1* (*siah1*ΔRING) under the control of the heat shock promoter to modulate Siah activity during photoreceptor development. Overexpression of *siah1*, but not *siah1*ΔRING, resulted in a decrease in the number of rods and cones at 72 h post fertilization (hpf). The number of retinal ganglion cells, amacrine and bipolar cells was not affected by Siah1 overexpression, and there was no significant reduction of proliferating cells in the Siah1 overexpressing retina. We did, however, detect increased cell death, confirmed by an increase in the number of TUNEL + cells in the ONL, which was proteasome-dependent, as proteasome inhibition rescued the cell death phenotype. Furthermore, reduction in rods and cones resulting from increased Siah1 expression was rescued by injection of *cdhr1a* mRNA, and to an even greater extent by injection of a Siah1-insensitive *cdhr1a* variant mRNA. Lastly, CRISPR induced loss of Cdh1a function phenocopied Siah1 overexpression resulting in a significant reduction of rods and cones. Taken together, our work provides the first evidence that Cdh1a plays a role during early photoreceptor development and that Cdh1a is regulated by Siah1 via the UPS.

Keywords: retina, cell death, UPS, zebrafish, photoreceptor, Siah E3 ubiquitin ligase, CDHR1a

Counting k -Naples Parking Functions Through Permutations and the k -Naples Area Statistic

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ABSTRACT: The k -Naples parking functions of length n (a generalization of parking functions) are defined by requiring that a car which finds its preferred spot occupied must first back up a spot at a time (up to k spots) before proceeding down the street. Note that the well-studied parking functions are the specialization of k to 0. For fixed $0 \leq k \leq n - 1$, we define a function φ_k which maps a k -Naples parking function to the permutation denoting the order in which its cars park. Summing the sizes of the fibers of φ_k gives a new formula for the number of k -Naples parking functions as a sum over the permutations of length n .

We note that our formula for enumerating k -Naples parking functions is not recursive, in contrast to the previously known formula of Christensen et al [10]. It can be expressed as the product of the lengths of particular subsequences of permutations, and its specialization to $k = 0$ gives another way to describe the number $PF_n = (n + 1)^{n-1}$ of parking functions of length n . We give a formula for the sizes of the fibers of the map φ_0 , and provide a recurrence relation for its logarithmic generating function. Furthermore, we relate the q -analog of our formula to a new statistic that we denote \mathbf{area}_k and call the k -Naples area statistic, the specialization of which to $k = 0$ gives the usual \mathbf{area} statistic on the parking functions.

Keywords: k -Naples parking functions; permutations; q -analog; generating functions; area statistic

2020 Mathematics Subject Classification: 05A15; 05A19



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The equivariant Ehrhart theory of the permutahedron

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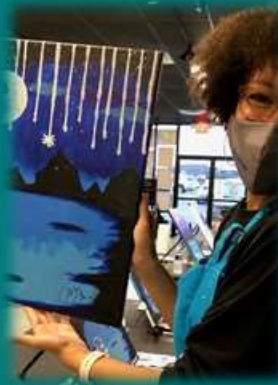
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Abstract: Equivariant Ehrhart theory enumerates the lattice points in a polytope with respect to a group action. Answering a question of Stapledon, we describe the equivariant Ehrhart theory of the permutahedron, and we prove his Effectiveness Conjecture in this special case.



KY-WV LSAMP Cohort I Bridge to the Doctorate Fellows Lexington, KY, November 21, 2020



L-R: Xava Grooms, Alyssa Donawa, Alexis Smith, Kayla Titalii-Torres, Edwina Barnett, Raúl Torres (Coordinator), Fara Williams (Director)

