**RECRUITMENT PLAN TO ENHANCE DIVERSITY**

**Diversity Efforts for Students from Under-resourced Populations (URPs).** *The University of North Carolina at Chapel Hill is committed to developing a diverse scientific workforce and ensuring that every student with the motivation for a research career has the opportunity and resources to thrive as a scientist.* In her role as Associate Dean for Graduate Education, **Dr. Donita Robinson** serves as the head of the Office of Graduate Education (OGE). In addition to overseeing recruitment to the umbrella PhD first-year program, the Biological and Biomedical Sciences Program (BBSP), the OGE is responsible for coordinating recruitment and retention efforts for individuals from under-resourced populations (URPs). The URP designation is inclusive of the groups defined by NIH as underrepresented (race, ethnicity, disability, and disadvantaged backgrounds) and avoids the implication of an acceptable level of representation as suggested in the US Supreme Court decision regarding the use of race in college admissions.

Dr. Ashalla Freeman (full-time Director of Diversity Initiatives and the Director of the UNC Initiative for Maximizing Student Development, (IMSD) provides leadership for the recruitment and support of URP students in the biomedical and biological sciences. Dr. Christiann Gaines (Assistant Director of Diversity and Doctoral Success and Co-Director of IMSD) works closely with Dr. Freeman to support the recruitment and success of URP students in BBSP. They are joined by Drs. LaKeya Hardy, Donita Robinson, and Jose Rodriguez-Romaguera, Directors of UNC PREP post-baccalaureate program, and OGE staff in both student recruitment and retention activities. Their efforts are supported by generous institutional resources from the School of Medicine, the UNC Lineberger Comprehensive Cancer Center, and other UNC schools that participate in the BBSP program (the College of Arts and Sciences, the Eshelman School of Pharmacy, and the UNC School of Dentistry), plus NIH educational grants.

**History of Achievements.** Before 2008, when the OGE was created, individual program efforts sustained much smaller numbers of URP students (~6%), whereas the combined efforts have led to substantial increases. *Since 2018, the BBSP classes are, on average, 22% URP students, and this number meets or exceeds the percentages of URPs in the BBSP applicant pool for these years.* The entire UNC research training community engages in outreach and recruiting to ensure a diverse BBSP applicant pool (detailed below). In the last 5 years and preceding the SCOTUS admissions decision, URP applicants constitute ~14-16% of total applicants and ~21-24% of domestic (training-grant eligible) applicants. Since the introduction of implicit bias discussions in 2015, our analysis of predictors of PhD student success (Hall et al., 2017), and training in individualized review, committees have extended offers to URP applicants in percentages that match their representation in the candidate pool using the same criteria for all application scoring.

**Proposed Plans for Recruitment**

The philosophy at UNC is that outstanding recruitment of students from URPs is built from the ground up through multi-faceted development of individual, community, and outreach relationships. Notably, many of the training faculty in the XXX and their students are involved in these activities. The programs include OGE-coordinated outreach and pathway programs engaging trainees of all career stages. A few examples of these programs include:

* North Carolina DNA Day. This science outreach program is held annually in April to coincide with National DNA Day. UNC graduate students and postdoctoral scholars visit high schools across the state of North Carolina to conduct engaging, hands-on scientific activities highlighting a range of scientific topics, sharing their passion for science, and providing information about science careers. In 2022, approximately 6,000 high school students in 100 high schools were reached by over 120 graduate students and postdoc scientist “ambassadors." Since the program was established in 2007, NC DNA Day has reached 517 unique high schools and >102,000 high school students. For most of the high school participants, it was their first interaction with a career scientist. XXX trainees and students in the laboratories of our training faculty are regular participants in this important event. In addition, as part of UNC’s DNA Day CONNECT initiative, a subset of trainees are paired with NC high school science teachers at the start of the school year to be available as a “guest scientist” by video conference throughout the year. This culminates with the scientist visiting the classroom in person on DNA Day.
* Summer Research Programs and Undergraduate Mentoring. Summer research programs at UNC host visiting undergraduates from other institutions where there are few opportunities to participate in internationally-competitive research. Over the years, many of these students have been hosted by faculty in our training program. Typically, >50% of the NSF-funded SURE participants are from URPs. BBSP has a high rate of recruitment from this program, and additional SOM summer research programs provide continuing opportunities to recruit outstanding diverse students including Carolina Summer Fellowship Program in Pharmacology (see more below), NC Central University PARTNERS Program, EDGE Genomics summer program, Summer Research Opportunities Program in Microbiology & Immunology, and the UNC SPIRE summer program (part of UNC’s IRACDA). Dr. Gaines manages the OGE’s engagement with summer research interns and programs. She leads a working group of summer program directors and facilitates quarterly meetings to coordinate summer program planning. She also coordinates the OGE’s professional development offerings for summer research interns including workshops on effective communication, succeeding in summer internships, crafting competitive fellowship applications (i.e. NSF GRFP), presentation skills, and diversity, equity, and inclusion topics. Additionally, Dr. Gaines directs the recruitment, selection, and training of graduate student summer peer mentors and supervises the peer mentor coordinator. Over 20 URP students from summer programs have matriculated into BBSP. If your program/dept hosts a summer research program, be sure to highlight accomplishments and faculty/student involvement.
* Postbaccalaureate Research Education Program (PREP). The OGE has administered an NIH-funded Postbaccalaureate Research Education Program (PREP) for URP scholars since 2010 (R25 Co-PIs, Dr. Donita Robinson and Dr. Jose Rodriguez-Romaguera). UNC PREP provides one year of salary/tuition support for URP scholars who plan to apply to biomedical Ph.D. programs. In addition to a full-time research lab experience, UNC PREP scholars receive extensive professional development in areas including scientific writing, presentation skills, critical analysis, and time management. Since 2010, UNC PREP has transitioned 113 URP scholars (93%) into top-tier biomedical doctoral programs. OGE published UNC PREP outcomes, and a detailed program description has been used as a blueprint for other post-baccalaureate training programs across the country (Hall et al., 2016). UNC has a high rate of recruitment from this URP pool, with 39% (44/113) of grad-school bound PREP scholars transitioning directly to BBSP. XXX training faculty have mentored ??? PREP scholars thus far.
* Partnerships with Minority Serving Institutions. SPIRE is an NIH-funded IRACDA program for postdoctoral training in research and education. SPIRE fellows teach at North Carolina MSIs, and they work with the OGE to identify candidate URP undergraduates for research opportunities at UNC. The OGE hosts campus visits for undergraduates from NC MSIs and North Carolina undergraduates from schools with high percentages of first-generation college students. The OGE has developed strong relationships with the University of Puerto Rico at Cayey and the University of the Virgin Islands, two MSIs outside the continental US with limited research infrastructure and few research opportunities for students. (Reminder – as US citizens, these UPR and UVI students are training-grant eligible). Each year (pre-pandemic), the OGE coordinates graduate students to visit these universities to lead laboratory skills workshops and present their research. Several undergraduates from UPR Cayey and UVI have participated in UNC summer programs and the PREP program, and successfully matriculated through BBSP.
* Faculty Participation at Conferences. The OGE sponsors faculty and student attendance at conferences for URP students interested in biomedical research careers including SACNAS (Society for the Advancement of Chicanos and Native Americans in Science) and ABRCMS (Annual Biomedical Research Conference for Minority Students). Additionally, the OGE provides recruitment materials and training for faculty attending targeted URP recruitment events at society meetings including the ENDURE session at the Society for Neuroscience National Meeting, the Society for Toxicology Annual Meeting, and the Career Opportunities Fair at the Biophysical Society Annual Meeting. The XXX Program is directly involved in these efforts as well (faculty and student trainees may attend these conferences, assist with recruitment as exhibitors, serve as poster judges, and meet with recruits).
* BBSP Preview Week. Beginning in 2015, UNC has annually hosted 15-20 prospective BBSP applicants from URPs for an all-expenses-paid, two-day campus visit each Fall. Participants received individual guidance from faculty about crafting competitive graduate school applications and the interview and admissions process at UNC. Participants meet faculty and current PhD students to learn more about the research opportunities and diverse community at UNC. In 2023, this in-person event transitioned to a week of virtual activities for prospective applicants to receive guidance on crafting competitive graduate school applications. Additionally, participants met faculty and current PhD students to learn more about the research opportunities and our inclusive and diverse community at UNC. Specify your XXX T32 program faculty and trainees that participate in this event.
* Recruitment Ambassadors. IMSD students serve as ambassadors who are points-of-contact for URP BBSP applicants, and they reach out to recruits to share a student perspective about IMSD, BBSP, and Chapel Hill. Ambassadors attend a Meet-and-Greet event hosted by IMSD leadership and BBSP at the start of each visitation weekend to introduce recruits to the IMSD community.

**Specific efforts of the XXX Training Program.** You should highlight here how your faculty, students, etc. have participated in the above programs/events. If you have other events or programs that you conduct on your own, then you should describe them here. This is extremely important. The review committee is looking for specific involvement by your training faculty rather than simply leaving these activities to OGE to take care of.

**Plan for Predoctoral Students with Disabilities.** While UNC is prohibited from asking about disabilities in our admission process, active recruitment of students with disabilities is an integral part of the BBSP recruitment strategy. The OGE reaches out to accessibility services offices at major undergraduate institutions in North Carolina and many others in the Southeast. This effort involves yearly emails and letters to the heads of accessibility services offices at the 16 UNC system schools, 17 private liberal arts colleges, and 6 private universities in NC, as well as a dozen other regional colleges and universities in the Southeast. These communications emphasize our commitment to enrolling and actively supporting students with disabilities in our PhD programs, summer undergraduate programs, and PREP. Faculty and students also recruit at undergraduate research conferences for students from URPs (e.g. the annual ABRCMS and SACNAS events where many students living with disabilities present their research. We make a concerted effort at these events to demonstrate UNC’s commitment to inclusion and diversity for students of all ability levels.

The OGE also extends our outreach efforts to the high school level. Dr. Patrick Brandt, Director of Career Development and Training in the OGE, serves on the planning committee for an annual STEM diversity event sponsored by the local statistics software development company, SAS. This annual STEM Career Showcase is a joint effort between SAS, the NC Museum of Natural Sciences, UNC, and Duke University. (The event was postponed due to the pandemic and will hopefully resume in 2024.) Over 100 middle and high school children with a variety of mobility and cognitive disabilities meet at the NC Museum of Natural Sciences to hear an encouraging and practical keynote address by a nationally recognized scientist, engineer, or mathematician who is living with disability. Each year, UNC graduate students living with disabilities have participated. Additionally, in 2024, the OGE will participate at the annual Biomed Grad School Virtual Fair for People Living with Disabilities hosted by Careereco (usually in October).

Literature Cited

Hall, J.D., J.R. Harrell, K.W. Cohen, V.L. Miller, P.V. Phelps, and J.G. Cook. 2016. Preparing Postbaccalaureates for Entry and Success in Biomedical PhD Programs. *CBE Life Sci Educ*. 15.

Hall, J.D., A.B. O'Connell, and J.G. Cook. 2017. Predictors of Student Productivity in Biomedical Graduate School Applications. *PLoS One*. 12:e0169121.