

4. Recruitment and retention of diverse populations:

4A UAB Diversity Enrollment: UAB has a fundamental commitment to enhancing equity and diversity in the biomedical research workplace reflected by a proactive and rigorous approach to recruiting, retaining and training of underrepresented groups. **Table 10** shows that over the past 6 years 127 predocs (all being training grant eligible) from diverse backgrounds and representing underrepresented minorities (URM, 102 students), students with self-reported disabilities (20 students) and from disadvantaged backgrounds (5 students) have been (or are currently are being) trained in programs associated with the training program. These students were recruited into closely related predoctoral programs including the larger of our two entry programs, GBS, the two predecessors to GBS (Integrative Biomedical Sciences; Cell and Molecular Biology), the Howard Hughes Med-into-Grad program, the MSTP, the Neuroscience program, and several departmental predoctoral programs in which many of our program faculty are members. **Table 10** also shows that since 2005, out of the 127 total diversity students enrolled, 29 (22.8%) have left without completion of their studies; a further look at these data show that this relatively poor retention rate is due to students enrolled between 2005-2008, for which attrition was 32.4% relative to 9.4% for students enrolled since 2009. These data demonstrate improvements over the last 5y at the institutional level in diversity student retention via efforts outlined below. University-wide, 29% of US undergraduate and 19% of US graduate students in all disciplines derive from minority populations. UAB has been named among the top 10 universities nationally for diversity by The Princeton Review for past three years (and in 2009, as high as 4th nationally).

We also highlight that through the Med into Grad program an average of 14.6% of the trainees have been diversity students (since 2006) and more notably, recruitment of URM has significantly improved since Dr Patel became PI (since 2010/11, see **Table A**). This reflects a personal commitment from both the Director and co-director to minority recruitment and retention illustrated further by i) Dr Patel being as a mentor for junior faculty at HBCU's via a program organized through the UAB Health disparities Research training Award Program, ii) Dr Patel participating in the Pre-Med 1st STEP (Science Training Enrichment Program) run through the Office of Diversity & Multicultural Affairs. The purpose of this initiative is to foster advocacy for students especially URM who are seeking who seek to enroll at the University of Alabama School of Medicine (UASOM) by providing support, guidance, and opportunities to strengthen their overall candidacy and iii) Dr Ambalavanan successfully mentoring an URM PhD student.

4B Institutional Commitment: UAB has a fundamental commitment to diversity including identification, recruitment, retention, and career advisement of trainees from underrepresented populations. The UAB Vice President for Equity and Diversity leads an array of programs through the Office of Equity & Diversity to promote diversity at UAB, including mandatory employee diversity training, Disability Support Services, Commission on the Status of Women, Manos Juntas mentoring program, and the *Comprehensive Minority Faculty and Student Development Program (CMFSDP)* which annually funds eight new graduate fellowships for African Americans and the Equity & Diversity Fellowship Program for all minority students, in addition to other initiatives. *CMFSDP* and the *Louis Stokes Alabama Alliance for Minority Participation (LSAAMP)* and the *Alabama Alliance for Graduate Education and the Professoriate (AAGEP)* also sponsor extensive pre-college minority student efforts that bring 200-300 students to UAB each year from regional HBCU institutions for summer research apprenticeships, remedial workshops, laboratory tours, weekend academies, and a variety of other outreach/recruitment activities.

The UAB *Minority Health and Health Disparities Research Center*, supported by NIH and other entities, sponsors annual summer education and research programs in minority health for undergraduates at regional HBCU partner institutions. The *UAB Center for Community Outreach Development (CORD)*, partially funded by NIH, engages UAB faculty and graduate students in Birmingham area K-12 student and teacher science training, where minorities represent ~90% of the student population.

UAB Graduate School hosts a NIH PREP postbaccalaureate program that prepares diverse population applicants for graduate school through research training and other enrichment activities, and a NIH Institutional Research and Career Development Award (K12 IRACDA)-funded MERIT program that provides for postdoctoral research and teaching training in collaboration with neighboring HBCU undergraduate institutions. The Graduate School also funds the UAB Graduate Family Assistance Scholarship, which provides additional support to students with unusual family responsibilities that may otherwise prevent the

student from entering graduate training. The Graduate School also sponsors various graduate student groups including the Black Graduate Student Association (BGSA), the UAB SACNAS chapter, and the LGBT Alliance.

Through School of Medicine strategic planning funding the GBS, with the MSTP, sponsors the Summer Institute for Biomedical Science for undergraduates which attracts and includes diverse students. The School of Medicine has also recently named a Senior Associate Dean for Diversity and Inclusion, primarily to enhance inclusion of diverse groups at senior faculty levels; Dr. Selwyn Vickers, the recently named School of Medicine Dean, is himself a world-recognized African-American surgeon and investigator.

UAB Disability Support Services provides classroom aids, testing accommodations, assistive computer technologies and many other services for graduate students, while the Human Resources-based RAVE program provides similar workplace support for postdoctoral trainee employees

4C. Minority and Disadvantaged Recruitment and Retention Plan: Minority recruitment is based in part on fostering long-term relationships between UAB and Historically Black Colleges and Universities (HBCU), predominantly in the Southeast. The Graduate School interacts regularly with their faculty and administrators and makes periodic recruitment visits, along with UAB graduate faculty and student alumni of these institutions. In addition their undergraduate students are invited to participate in UAB-sponsored on-campus graduate recruitment events and summer research experiences sponsored by various graduate programs. The Graduate Biomedical Sciences (GBS) program typically hosts summer visits from institutions including Spelman, Morehouse, Tougaloo, Oakwood, Stillman and others and hosts tours of LSAAMP- sponsored entering freshmen, with more than 100 undergraduates visiting each summer. In addition GBS staff and health sciences graduate program representatives regularly participate in the NIH-sponsored *Annual Biomedical Research Conference for Minority Students (ABRCMS)*, SACNAS and other national minority events such as the annual NIH Summer Graduate/Professional Student Fair. Meeting preview and follow-up mailings concerning visits to the GBS exhibits are sent nationally to program directors of *MBRS*, *MARC* and *McNair* undergraduate institutional grants and to other meeting attendees. GBS staff also participate in regional recruitment fairs, including those recently sponsored by Xavier (NO) and the Atlanta University Center. Diversity group applications to GBS have increased 59% since the initiation of the GBS program in 2010, currently constituting 26% of domestic applications (AY2014). The [GBS Diversity Initiatives](#) website provides information on minority and disabled student services and funding opportunities. All bioscience graduate programs invite promising applicants for personal interview visits with program faculty and students, including interactions with Office of Equity & Diversity leadership, at no applicant cost, which provides familiarity and comfort for the applicants and provides an essential component of assessment for the recruiting program beyond standardized tests and grades.

Minority retention activities start with participation in Graduate Biomedical Sciences Orientation activities, including presentations on institutional policies and services that benefit diverse populations. Program directors meet frequently with first-year students to guide course selection and laboratory rotations, provide ongoing oversight, arrange early tutoring intervention, and provide guidance on minority and financial need-based fellowships. Annual or semi-annual thesis advisory committee meetings follow in subsequent years. GBS recently initiated a series of minority student surveys and focus group discussions to better assess the needs and expectations of diverse populations, in particular focusing on the first year transition to graduate training. Meetings with Counselling Center staff and with the Graduate Student Ombudsman, Student Affairs, are also valuable resources. The GBS Diversity Initiatives website provides content on UAB diversity services, national and UAB diversity fellowship opportunities and other resources of interest. UAB Disability Support Services advertises its resources widely by internet, hard copy and personal presentations. Minority retention in the biomedical and biological sciences in the past 5 years exceeds 87% and minority PhD graduates in the past decade have progressed to postdoctoral or subspecialty training (44%); academic, industry or government research (35%); science education (11%); science administration/policy/law (5.6%); and clinical practice (3.7%).

UAB Disadvantaged Support: Students with a disadvantaged background are encouraged to apply. Specifically, while at recruiting fairs throughout Alabama and the US, students who might come from rural or disadvantaged backgrounds, and may be attending schools that do not have direct access to biomedical research and/or physician-scientist role models will be provided information for applying to graduate school.

4D. Minority Retention Efforts: Minority retention activities include presentations on institutional policies and services that benefit diverse populations during orientation. Further, Program Directors of the entry programs have frequent meetings with enrolled URM students and the PD of TMS program will be informed of all test results from core and advanced courses, so we can provide tutoring support as needed. Finally, the OED Director of Academic Programs meets regularly with minority students and assigns student mentors as needed. Finally, we note that because of the racial and ethnic disparities in incidence of many chronic diseases, it is highly likely that some trainees in this program will be more interested in research that tests race/ethnicity related questions. We note that such research is routinely conducted in the labs of TMS faculty Dr Garvey, Gower, and Ballinger.

4E. Ongoing Minority Outreach Efforts. Alabama has a relatively large minority population (30%) but only a modest number of minority high school students qualified to enter competitive colleges and universities. Designed to augment and enhance science teaching in Alabama high schools since 1992, the BioTeach training program has trained approximately 16 teachers per year (210 total). ~40% of the teachers are from URM groups, and 75% of the schools represented have predominately minority students. BioTeach teachers are now passing on a new enthusiasm for biomedical research to many minority high school students across Alabama. For middle and high school, UAB established the Center for Community Outreach Development (CORD) to advance UAB's outreach efforts to the greater Birmingham community in 1999. CORD has teaching laboratories at the McWane Science Center for high school science classes taught by UAB graduate students. CORD also developed four portable experimental modules for BioTeach graduates to use at their high schools. A \$1.5 million NSF grant started this program, which exposes ~1500 children in grades K-12 each year (at least 60% minority) to these labs. A highly successful new initiative is our middle school program supported by a \$1.25M NIH NCRR specialized education program award. This summer program enrolls middle school students from Birmingham city schools (~98% are minorities). Students spend two weeks in a science camp at the McWane science museum, run by UAB graduate students. This program is reaching 3,500 kids per year. Students who have completed middle and high school science summer camps are eligible to apply for a research internship at UAB that pays \$2,000/ 8 weeks. Program highlights can be found at www.uab.edu/cord. Finally, between Feb-May 2013, two new initiatives involving collaborations between UAB and Birmingham city schools, and 4 Alabama community colleges (Gadsden state, Jefferson State, Lawson State, Wallace State) were announced with a goal to create joint admission programs that allow access and opportunity for young people, many of them URM, to UAB resources, mentorship and scholarship funds.

4F: UAB Disability Support Services (DSS): UAB Disability Support Services (DSS) exists to make programs, activities, and the UAB campus accessible to all students, including students with disabilities. DSS provides academic accommodations to qualified students with disabilities. DSS also works to ensure that students with disabilities are protected from discrimination based on their disability, as guaranteed by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973.

Over 350 students at UAB are registered with Disability Support Services during any given semester. Most of the students registered have invisible disabilities, such as learning disabilities, attention deficit disorders or psychiatric disabilities. Students with disabilities at UAB are highly successful and are enrolled in nearly every program across the campus, including the Medical School, School of Dentistry, School of Optometry and in the sciences. A variety of support services are available including assistive technology, individualized accommodation plans, and academic coaching support. DSS works collaboratively with students and faculty to make sure that eligible students are receiving the services they need.

Students with disabilities must self-identify and be registered with Disability Support Services and provide an accommodation request letter before receiving academic adjustments. DSS is advertised on University and Student Affairs websites. Additionally the Graduate Biomedical Sciences website and all individual biomedical sciences program websites contain disability services information and links for the interest of applicants and current students. Entering students receive DSS information prior to arriving and during orientation. Faculty are required to include the following content in all course syllabi: *"If you are registered with Disability Support Services, please make an appointment with me as soon as possible to discuss accommodations that may be necessary. If you have a disability but have not contacted Disability Support Services, please call 934-4205 or visit DSS at 516 Hill University Center."*