Overview: It was truly an honor for me to be awarded the K-12 Minority outreach fellowship during 2011-2012. I am glad for the resources it afforded me to work with individuals in my local community as well as to attend scientific meetings to share my experiences with other trainees, participate in career development and to serve as a mentor. The outreach activities that I organized in my community presented me with unique challenges and pleasant opportunities. I was able to understand how the school systems and curriculum impacted the students in terms of Science education. This has allowed me to identify an area of need in my community which I can contribute to by remaining involved in APS outreach sponsored events.

The following are a list of the events that I participated in during my tenure as K-12 APS minority outreach fellow.

Experimental Biology- April 9-13, 2011: During this scientific meeting I presented a poster from my research to a group of high school students from the DC and Maryland area. I also assisted the APS Education office in giving tours of the exhibition hall to a group of high school students and their teachers. I was also able to network with senior investigators and obtain career advice from them to help me continue to grow as a Scientist.

Research Teachers Forum- July 17-22, 2011: I served as one of the physiologists-in-residence at the forum. The teaching forum provided a unique opportunity to interact with the K-12 teachers who were selected to perform research at a local research institution of their choice. I was able to gain additional insights into how they set up their curriculum and labs for the school year. This helped me target my K-12 outreach specifically to accommodate the teacher in my community at the high school I was working with. Furthermore, I was also able to share with the research teachers various insights into how they could modify some of their current labs to include inquiry based learning approaches for their students. I especially connected to the high school teachers since my outreach was targeted towards this population of students. We spoke about how these students needed to have a good foundation in Science in order for them to successfully transition into studying science related majors in college.

Annual Biomedical Research Conference for Minority Students (ABRCMS): During ABRCMS, I worked at the APS booth in the Exhibit Hall along with Brooke Bruthers. I enjoyed the opportunity to meet students at the Undergraduate, Masters, and PhD level. Many of these students didn't know about the unique opportunities offered by the APS so I approached them and shared information such as membership, programs that APS offered to trainees and the importance of joining an organization like the APS. I also gave them the various pamphlets and handouts at our table.
that contained additional information. In addition to this, I was able to attend some career development sessions targeted at postdoctoral fellows. I gained some unique insights into areas such as NIH grants, new programs being developed for young investigators and those at an early stage of their career. I found these to be very useful for me, particularly in planning ahead for my transition to independence.

**PhUn Week 2011- December 7, 2011**: I worked with a teacher from Emerson High School in Oklahoma City. The main goal of this PhUn week event was to provide the students with a fun way to learn about Density. The students consisted of 10th-12th graders with varying scientific skill levels. The PhUn week activities were planned over a period of 3 days. On day 1, we provided them with an introductory lesson focusing on what density is and sharing real life examples of the importance of density such as the story of the Archimedes and the dishonest jeweler. We set up several stations on day 2 in which the students worked to prepare and then showcase several unmarked graduated cylinders with different colors and each containing different unknown substances. Students worked in groups while rotating among the stations to determine what unknown solutions were contained in their graduated cylinder. The density of several unknown substances was observed. The final day was dedicated to group discussions where the students and instructors discussed their findings and shared what each group found to be the unknown substances. The students each received one of the various prizes donated by the APS. APS also provided several literature and teaching resources that were shared with the students and teacher.

**Experimental Biology Meeting- April 21-25, 2012**: I enjoyed serving as a mentor to a graduate student and current APS travel fellow recipient during the meeting. We met on several occasions and discussed his research and future plans for postdoctoral positions. I was happy to be able to suggest some additional avenues for him to pursue in terms of applying for jobs post-graduation. I served as a career panelist during the conference where I spoke about my path to becoming a physiologist. It allowed me to reflect on my experiences from my adolescent years to high school, undergrad and then to graduate school. I wanted to show the students how my interest in science was ignited by curiosity about the things that affected people around me. The students were further able to ask additional questions during the sessions that followed. In addition to this, I worked with the APS education office to serve as a tour guide for a group of local high school students and their teacher. I took them to the exhibit hall and showed them some poster presentations in which they were able to ask the presenters questions. The students also enjoyed being able to interact with the exhibitors and seeing how much Science was
present in the venue. Many of the students also indicated interests in pursuing careers in Science and were able to ask me various questions about what it is like to work as a Physiologist.

**Outreach Events (April 2011- May 2012):** I spent most of my outreach tenure working with students and faculty from Emerson High School. Emerson High School has been a part of the Oklahoma City community for many years. According to the Census Bureau ~29.65% of students in Oklahoma City school district are from families living below the poverty line. The demographics of students at Emerson are 50.51% African American, 6.06% Native American, 26.94% Hispanic, 0.67% Asian, and 15.82% Caucasian. The mission of Emerson High School as stated is “to provide students with a nontraditional setting where each student endeavors to reach their individual potential by acquiring the skills, knowledge, and values to become competent productive citizens”. Mrs. Gowry Sivanesan is a faculty member at Emerson in the Science Department. She is the teacher primarily responsible for the teaching of all general and physical science courses for the students in grades 10th -12th. The background and Science foundation of the students had to be taken into consideration in order to prepare lab activities that they would be able to participate in and gain useful knowledge. I worked very closely with the teacher to identify these target areas and was then able to design appropriate activities that were suitable for the skill level of the students. I visited the school numerous times throughout the year for lab demonstrations and discussions. The students seemed to be engaged and willing to understand each lab demonstration, especially if they could see some real world application of those concepts.

**School Visitations:** During my outreach activities, I was invited to visit two local high schools by a teacher who had heard about my involvement at Emerson High School. I carried out visits to Harding Preparatory Academy and Dove Science Academy and was able to share unique opportunities with the teachers and students at these schools. I took various APS literature materials for distribution and also spoke with several students who indicated an interest in careers in Sciences. Several faculty members also indicated they were interested in applying for the research teaching fellows program offered by APS. I have since been in touch with several students who plan to join labs for summer research and get involved in APS.
Below are pictures from the various experiences during my tenure as K-12 Minority Outreach Fellow.

Student enjoying outreach activity at Emerson High School
Student and teacher discussing lab activity at Emerson High School

Myself with two of the teachers at the Research Teachers Fellow Forum
Experimental Biology 2011

Experimental Biology 2012, APS Education Section poster presentations
My mentee and I at Experimental Biology 2012