Aebeyo Abraha is originally from Ethiopia and has been an educator since 1996. Currently, Mr. Abraha teaches at Ben L. Smith High School in Greensboro, NC. He earned a B.S. degree and M.S. degree in Chemistry with a concentration in Secondary Education from North Carolina A&T State University.

During his career, Mr. Abraha has been awarded various competitive academic and research grants intended to help enhance teaching and learning outcomes. He is a member of the 2009-2011 class of the prestigious Kenan Fellowship program, which is awarded by NC State University and funded by the National Science Foundation. His fellowship includes researching geophysics in South Africa and at Penn State University. Currently, Mr. Abraha is working as one of the five research experience teachers who received an RET award from the Engineering Research Center for Revolutionizing Metallic Biomaterials at North Carolina A&T State University.

The vision of this ERC is Revolutionizing Metallic Biomaterials and the underlying technologies. This will lead to engineered systems that will interface with the human body to prolong and improve quality of life.

The ERC's strategic research plan has three engineered systems that will be driven by enabling technologies. The engineered systems are Craniofacial and Orthopedic Applications (ES1), Cardiovascular Devices (ES2) and Responsive Biosensors for Implants (ES3).
Her mentors, Dr. M. McCullough Professor of Biomechanics, and Dr. Peter Seoane, Industrial Liaison Officer shared knowledge about the world of Science and Business to bridge the gap between academia and industry to form partnerships.

As one of the RET participants with the ERC, she has conducted market research to determine the best type of material (magnesium, titanium, stainless steel, etc.) to use in an Anterior Cruciate Ligament (ACL) screw that will perform well in the human body.

Ms. Gravely’s interdisciplinary background has provided her with opportunities to gain exposure and experience in Science, Business and Technology. She plans to share her knowledge and skills with her students through curriculum and technology integration.

Currently, she is working on the project entitled “Compression Testing of under the mentorship of Dr. McCullough.

As a result, the articles have enhanced her knowledge and she is learning new things every day. She will bring her experience and knowledge to her class at Guilford Technical Community College (GTCC). She has students comprised of a vast array of ages and different cultural backgrounds.

It is quite a challenge for her to bridge the generational gap between 20 and 65 year olds while maintaining balance in the classroom. She likes challenges and her experience as a Research Experience Teacher (RET) can definitely broaden her horizon of diverse thinking. She will introduce a Biomedical Engineering and Nanotechnology to her students and become interested in careers in these fields because it brings biology, chemistry, physics and engineering all together. She is so thankful to her mentor, Dr. Lee and the RET team who are always there to help guide her. While attending Stem technology workshops, she learned many new technology tools that will certainly help her teaching skills at GTCC. Last, but not least, she has worked with a wonderful group of RET’s and they meet regularly to discuss their projects. This has been a wonderful experience for that she will treasure for life.
Sonja Turner

Sonja Turner is a 7th grade Science teacher at Kernodle Middle School in Greensboro, NC. She has taught grades K-12 for 17 years in Guilford County. She is originally from Marshall, Texas. She is a graduate of Bennett College in Greensboro, NC, where she completed her undergraduate degree in Biology. She has taught in the NASA Robotics Program for Middle School Students, GAMSEC Pre-College Program, and the PER-SIST Pre-College Program all on the campus of North Carolina A&T State University. These programs are housed under the MSENetwork (Math and Science Education Network). Magnesium Based Implant with Electrospun Nanofibers.

Alycia Walker

Alycia B. Walker is an 8th grade teacher at the Academy at Lincoln in Greensboro, NC. She received her undergraduate degree in Biology and her graduate degree in Middle School Science Education from UNC-Greensboro. She has taught middle school for 13 years and she enjoys working with pre-teens and helping them develop a love for science.

Presently, she is a participant in the research experience for teachers (RET) program here at NCA&T. She hopes to gain from this program information on cutting edge research and first hand experience in a biomedical engineering laboratory. She also enjoyed working with the science, technology, engineering, and mathematics (STEM) program under the leadership of Dr. Jost in Proctor Hall. This experience has given her an increased knowledge on how to incorporate research into module creation.

Ms. Walker’s future plans are to incorporate this information learned into lesson plans that can be used in the classroom. She wants to enhance the background knowledge of her students and their understanding of 21st century careers and skills needed to be successful. She also hopes to increase participation and success of underrepresented populations in engineering and science.

ERC-RMB NEWSLETTER

SUMMER RESEARCH EXPERIENCE - Dr. Bhatarrai & Dr. Zhu

As an RET with the ERC, Ms. Turner is working with Dr. N. Bhatarrai on the topic of Surface Engineering of Magnesium Based Implant with Electrospun Nanofibers.

This research involves working extensively with different polymers in order to identify which will provide the best coating for Magnesium based devices that can be used to distribute therapeutic drugs at the implantation site in the human body, while, also, improving implant-tissue integration in orthopedic, cardiovascular, and neural implant application.

Ms. Turner sincerely believes that advances in science are truly the bridge to the future and a very important aspect to the overall improvement of life for all. Because of this belief and the research experience obtained she plans to continue her education and receive a Masters in Bioengineering and a Ph.D. in Nanoscience.