

## An interdisciplinary stem model for successful research and collaborations

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Individuals from groups that have been historically underrepresented in the sciences, technology, engineering, and math (STEM) continue to encounter barriers to success in industry and academia. New strategies that ensure equal access to STEM training programs and STEM job opportunities are desperately needed. NASA, the U.S. National Science Foundation, and other federal agencies have developed programs in partnership within academia and industry to address this issue. The Minority Institute Astrobiology Collaborative (MIAC), the Minority Institute Research Support (MIRS) program, Native American Research Laboratory (NARL) and the REU program are a few programs that have emerged from these partnerships. These model programs have seen both successes and challenges. This presentation will highlight achievements and open a discussion on which strategies work and which do not. Model international projects will be highlighted to show successful collaborations with students and faculty at foreign collaborating institutions. Our international projects focus on issues of importance to indigenous communities. Investigating the sustainable use of traditional plants and algae for food, medicinal and biofuel applications, along with studying potential biotechnological and pharmaceutical applications of indigenous traditional-use plants are investigative research areas. Our international projects focus on issues of importance to tribal communities. Scientific approaches in combination with traditional indigenous knowledge is employed to address fundamental problems that challenge the survival of indigenous communities and their ability to maintain or develop sustainable ways of living amidst an ever-changing climatic and socio-political landscape.

### Biography

Benita Bell, a North Carolina native is a graduate of the University of North Carolina at Chapel Hill, having majored in Chemistry. Being one of the only African American women in chemistry at UNC, He made a lifelong decision to structure her career such that she could influence an entire generation of Black women as well as all underrepresented women and students into the sciences. She decided then to attend NCA&T to receive her masters degree in chemistry and thus received her doctoral degree in chemistry and nutrition science from Howard University. He has taught chemistry at Howard University in the School of Allied Health Sciences, North Carolina Central University and Bennett College where she was the Director of the Science, Technology, Engineering and Mathematics (STEM) Program and Associate Professor of Chemistry. He implemented the first NASA Space Science Program at Bennett College which included a Space Science Week, a Global Science Series and a collaborative research program joint with NASA Ames Research Center.

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