

RESEARCH INTEREST

Science education, inquiry-based learning, authentic science, discourse in science, learning as cultural practice, underrepresented groups in science, curriculum development, teacher education, student development, higher education

RESEARCH /TEACHING EXPERIENCE

November 2010 to present

Postdoctoral Scholar, Math/Science Partnership (MSP)/ National Science Foundation (NSF)

The Pennsylvania State University- University Park

- Co-develop and co-implement teacher professional development activities which concentrate on building deep conceptual understanding of big ideas in Earth and Space Science in four topic areas: energy production, climate change, plate tectonics, and solar system astronomy.
- Co-develop and conduct interviews of middle and high school students' understanding of energy production, climate change, plate tectonics, and solar system astronomy.
- Serve as the education lead on the Energy learning progressions team.
- Collect and analyze student interviews and professional development sessions to help inform Earth and Space science learning progressions research.

August 2009 to May 2011

Curriculum & Instruction Instructor, C&I 412W: Secondary Teaching

The Pennsylvania State University- University Park

- Provide a space that enables students to become deliberate and conscious “student of teaching” through discussion, reflection, reasoning, articulation, and clarification.
- Facilitate inquiries and conversations for all prospective teachers, focusing principally on the question *what does it mean to become a student of teaching?*

August 2003 to August 2009

Graduate Assistant

495C Field Instructor, Science Education (August 2003- August 2006)

The Pennsylvania State University- University Park

- Supervise middle and high school pre-service teachers
- Guide and evaluate pre-service teachers' according to the Pennsylvania State Educational Domains.
- Conduct weekly seminars to enhance professional development in pre-service teachers as they move through their pre-student teaching experience.

Graduate Assistant, SCIED 412 Science Methods (August 2003- May 2006)

The Pennsylvania State University- University Park

- Work with lead instructor on the third of a three sequenced methods course for secondary science teachers designed to develop skills in planning, presenting, and assessing effective science learning and teaching for students in middle and high school grades

May 1999 to August 2003

Instructor, General Biology, Anatomy & Physiology, and Chemistry

Xavier University Preparatory High School- New Orleans

- Instruct, develop and round out the thinking skills in Biology and Chemistry to high school young women.
- Prepare students for success in Biology on the collegiate level according to the Louisiana State Standards and Benchmarks.
- 2000-2001, 2002-2003 8g Grant Proposal Team
- 2001-2003 Teacher Leader Cadre: Standards Based Education

PROFESSIONAL EXPERIENCE

August 2009 to March 2011

Interim Assistant Director, Paul Robeson Cultural Center

The Pennsylvania State University- University Park

Division of Student Affairs

Program Management

- Develop conceptual foundations and understandings of various issues affecting underrepresented communities in an effort to better frame new cultural center programs and/or to enhance pre-existing initiatives. This includes reading journal articles, magazines, and books, and reviewing movies, music, and websites.
- Effectively implement cultural programs at University Park and other Penn State campuses.
- Obtain feedback and assessment about our programs from various constituents.
- Primary coordinator of the 2009-2010 World Cultural Festival and the Embrace the N.E.R.D. program.
- Guide and support the development of the Family, Gender, and Ethnicity program primarily planned by the Graduate Program Coordinator.

Administrative

- Co-manage day-to-day operations of the cultural center. This includes; providing tours of the center for visitors; providing written and verbal communication to our constituents (emails, phone calls, letters, etc.), staffing cultural center events.
- Develop programmatic partnerships with staff of other student affairs units, academic affairs, faculty from various colleges, media representatives, and community partners.
- Perform outreach to cultural student organizations and other campus entities that seek to foster the university's commitment to diversity and multiculturalism. This includes providing support by attending organization meetings and campus programs.
- Serve as a cultural center representative on various campus wide issue committees.
- Co-supervise the center's student staff, intern, and graduate assistant including developing concepts, task lists, timelines, and providing constructive feedback on assigned projects.
- Provide program assistance with the Social Justice Initiative, Integrated Cultural Arts program, and the PRCC Liaisons.
- Advise student groups and advocating for students on campus.

August 2003 to August 2009

Graduate Assistant

Lab Coordinator, Science Education (August 2006 to August 2008)

The Pennsylvania State University- University Park

Management

- Hire and manage work-study students who fill orders and request for materials from science education.
- Maintain and regulate technological equipment assigned to the lab.
- Order all supplies/ materials needed for the science education lab.

EDUCATION

Ph.D., Curriculum & Instruction. Concentration: Science Education. The Pennsylvania State University- University Park Campus. **August 2009**

Dissertation: Investigating Minority Student Participation in an Authentic Science Research Experience

Committee: Carla Zembal-Saul (co-chair), Gregory J. Kelly (co-chair), Scott McDonald, and J. Daniel Marshall

M.A., with honors, Secondary Curriculum & Instruction. Xavier University of New Orleans, Louisiana. **May 2003**

B.S., Biology. Xavier University of New Orleans, Louisiana. **May 1999**

High School Diploma with honors. Xavier University Preparatory High School. **May 1995**

COURSE DEVELOPMENT

Summer Experience in Earth and Mineral Science (SEEMS) / Summer Experience in Eberly College of Science (SEECoS) Pedagogical Enhancement Sessions (Spring 2012)

This course was developed for Upward Bound Math and Science (UBMS) faculty and student mentors to emphasize teaching and learning science in ways that are most rewarding for high school students who are underrepresented in science, technology, engineering, and mathematics (STEM). The course highlights the importance of diversity within science teaching and learning and focuses on acknowledging privilege and the role it plays in teaching and learning science.

Xavier University Summer Institute (Summer 2012)

This course was developed for prospective doctoral students who currently attend Xavier University of Louisiana. The course premise is to encourage teachers from diverse backgrounds to pursue terminal degrees in education. It provides an overview on academic writing, reviewing and publishing in peer-reviewed journals, and transitioning into research one institutions.

PRESENTATIONS

Preston, S. D. (2011). *What Influence Does a Science Research Experience Have on Minority Student Participation in Science, Technology, Engineering, and Mathematics (STEM) Fields?* Paper presented at the American Educational Research Association.

Preston, S. D. (2011). *Investigating Minority Student Participation in an Authentic Science Research Experience.* Interactive Poster Paper presented at the National Association for Research in Science Teaching.

- Preston, S.D. (2010). *Surviving the dissertation: 20/20 hindsight*. Presentation at The Pennsylvania State University Achievement Conference, University Park, PA.
- Preston, S. D. & Rodriguez-Arroyo, S. (2009, September). *Surviving the dissertation: 20/20 hindsight*. Presentation at The Pennsylvania State University Retention Conference, University Park, PA.
- Preston, S.D. (2009, April). *Investigating the influence of an authentic science experience on minority student interest in science*. Presentation at the annual conference of the National Association Research in Science Teaching, Garden Grove, CA.
- Preston, S.D. (2005). *The success of minorities beyond high school*. Invited talk at Xavier University Preparatory School Career Day, New Orleans, LA.
- Preston, S.D. (2005). *Multiculturalism in science education*. Talk given at the African Interdisciplinary Spring Brown Bag Series at The Pennsylvania State University Co-sponsored by Africana Research Center, Black Graduate Student Association, and Paul Robeson Cultural Center. University Park, PA.

PROFESSIONAL/ ACADEMIC AFFILIATIONS

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| 2012 | Education Testing Service (ETS) Testing Evaluation, Assessment and Measurement (TEAM) Institute, Invited Participant |
| | Pennsylvania Black Conference on Higher Education, Member |
| 2008 to Present
2007 to Present | Science Education, Reviewer
American Educational Research Association (AERA), Reviewer |
| | Annual Pennsylvania Junior Academy of Science (PJAS), Scholarship Interviewer |
| 2006 to Present | National Association for Research in Science Teaching (NARST), Reviewer |
| 2004- 2008 | Minorities in Agriculture Natural Resources and Related Sciences (MANNRS) <ul style="list-style-type: none"> • 2006-7 Region I Graduate Vice President • MANNRS Pittsburgh Conference Planning Committee |
| 2003 to Present | National Association for Research in Science Teaching (NARST)
American Educational Research Association (AERA) |
| 2003-2009 | The Pennsylvania State University Black Graduate Student Association <ul style="list-style-type: none"> • 2007-2008, Fall 2008 Executive Secretary • 2005-2006 Vice-President • 2004-2009 Achievement Conference Committee <ul style="list-style-type: none"> ○ 2007-2008 Co-Chair ○ 2006-2007 Co-Chair • 2004-2008 Social Committee, Co-chair • 2004-2005 Publicity Committee • 2003-2007 Kwanzaa Committee |
| | Pi Lambda Theta International Honor Society |

2003	Kappa Phi Kappa Education Honor Society
1995-1999	Howard Hughes Biomedical Honor Corp

PROFESSIONAL SERVICE AND OUTREACH

Spring 2012	The Education Policy Studies Student Association- Trayvon Martin and Others Like Him: Why Should Educators Care?, Panelist
	The Pennsylvania State University Assistant Director of Fraternity and Sorority Life Search Committee, Member
Spring 2010	The Pennsylvania State University Assistant Director of Fraternity and Sorority Life Search Committee, Member
September 2009 to Present	The Pennsylvania State University Hetzel Union Building (HUB) Advisory Board, Member The Pennsylvania State University HUB Space Allocations Committee, Member The Pennsylvania State University Social Events Policy Committee, Member The Pennsylvania State University National Pan-Hellenic Council, Liaison The Pennsylvania State University Black Graduate Student Association, Liaison/ Advisor
2008 to Present	Epsilon Gamma Chapter of Delta Sigma Theta Sorority, Incorporated, Primary Advisor
2007-2008	The Pennsylvania State University Africana Research Center, Advisory Council Member

AWARDS & HONORS

2011	Living the Ritual. Student Affairs: Office of Fraternity & Sorority Life The Pennsylvania State University-University Park
2010	Image Award. National Association for the Advancement of Colored People The Pennsylvania State University-University Park Chapter
2008	Equity Scholars Award. National Association of Research in Science Teaching
2007-2008	SCIED GRT Fellow. Department of Curriculum & Instruction The Pennsylvania State University- University Park
Summer 2004	NASA Astrobiology Research Center Scholarship The Pennsylvania State University- University Park
2004-2005	Eva Diefenderder Graduate Fellowship The Pennsylvania State University- University Park

REFERENCES

Provided Upon Request