The Maryland Upper Elementary/Middle School Science Teacher Professional Continuum Model

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**Collaborating Partners**

- Prince George's County Public Schools
- Hands On Science Outreach Inc.
- Bowie State University
- University of Maryland
- Tel-Aviv University
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- Spenser Benson, UMD
- Scott Dantley, Bowie State University
- José Barata, Hands On Science Outreach Inc.
- Amy H. Dai, University of Maryland
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- Rebecca S. Pease, University of Maryland
- Wilkinson Unugboji, Tel-Aviv University

**Summary**

Project Nexus promotes qualified science teacher education through research and professional development activities aimed at elementary, middle school, and upper elementary/middle school science teacher preparation programs. The project focuses on investigating science teacher recruitment and preparation that focuses on currently underrepresented groups.

**Rationale**

- **Current need in science teacher preparation**
  - To increase the number of minority teachers in lower- and upper-middle school science
  - To develop a vision of science and science teaching that is consistent with standards-based recommendations

**Central Research Question**

To what extent of success (and for what reasons) can undergraduate elementary teacher education majors, particularly those from underrepresented groups, be recruited and prepared to teach upper elementary/middle science in a manner consistent with standards-based recommendations?

**Theoretical Framework**

The key assumption is that science educational practices require systematic reform within the undergraduate science subject matter and education classes, prospective teacher field-based experiences, and professional development during new teachers induction years (NIST, 1997; NRC, 1997; Suinn, Wright, & Day, 2004).

**Overarching Goal**

- **Science Teacher Preparation Continuum Model**
  - Year One: Focus 1: Undergraduate Advisors
  - Year Two: A Focus on Transformative Science Courses
  - Year Three: the Use of Informal Science Urban Field Placements
  - Year Four: A Focus on Science Methods Course & PDS Urban Placement
  - Year Five: Induction Year in the Project Nexus Science Teacher Preparation Program

**Objectives**

- **To build a new teacher preparation model**
  - Focused on: Undergraduate education, professional development, and a senior internship experience
  - Theoretical framework: Transformative
  - To increase the number of qualified upper elementary/ middle school teachers
  - To enhance the teacher effectiveness and pedagogical content knowledge

**Year One: Focus 1: Undergraduate Advisors**

To what extent of success (and for what reasons) can undergraduate elementary teacher education majors be recruited and prepared to teach upper elementary/middle science in a manner consistent with standards-based recommendations?

**Year Two: A Focus on Transformative Science Courses**

**Year Three: the Use of Informal Science Urban Field Placements**

**Year Four: A Focus on Science Methods Course & PDS Urban Placement**

**Year Five: Induction Year in the Project Nexus Science Teacher Preparation Program**

**Survey for graduates**

**Interviews conducted**

- **Individual interview: Undergraduate Advisors**
  - 1. For what reasons do you believe that students in science (or those with an interest in science majors) are interested in teaching elementary/middle school science?
  - 2. For what reasons do you believe that students in science (or those with an interest in science majors) are interested in teaching upper elementary/middle school science?
  - 3. What information or strategies have you found successful in recruiting and preparing of upper elementary students to science teachers?

- **Summary**

**New Teachers, Science Methods Course and PDS Urban Placement**

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