

2012 National Science Teachers Association (NSTA) National Conference
Indianapolis, Indiana: March 29–April 1, 2012

At the Crossroads for Science Education

Join us at the crossroads for science education during the NSTA 2012 Indianapolis National Conference on Science Education. The conference headquarters hotels are the Indianapolis Marriott Downtown, JW Marriott Indianapolis, and Westin Indianapolis. Conference registration and exhibits will be at the Indiana Convention Center. Most sessions and events have been scheduled at the Convention Center as well as the Indianapolis Marriott, JW Marriott, and Westin Indianapolis.

Twitter hashtags: #nsta12 (2012 conferences), #nsta (all-purpose).

Session Proposal ID: 1176504

Primary Presenter: Kirk A. Janowiak, Biology Department, Delphi Community High School, Delphi, Indiana.

Additional Presenters: Omolola A Adedokun and Loran C Parker, Discovery Learning Research Center, Purdue University; Annwesa P Dasgupta and Nancy Pelaez, Biological Sciences, Purdue University; Leslie G Fatum, Shortridge Magnet High School for Law and Policy, and Elvia Solis, Arsenal Technical High School, Indianapolis Public Schools

Strand: Merging Inquiry, Creativity, and Innovation Through STEM

Session title: How would you find out if your students can design reasonable biological experiments?

Description: Can your students apply the process of science and use quantitative reasoning? Assessments can help you diagnose and improve their experimental approaches to biology.

This session will address National Science Standards by presenting assessment strategies that demonstrate evidence of student learning about experiments.

Reasoning about quantitative and statistical concepts in the context of biology and biological experiments has always been a difficult area for students. A recently awarded HHMI grant at Purdue University is addressing this problem with a cadre of “teacher-scientists” who are introducing students to the experimental and quantitative aspects of biology. The teacher-scientists have been examining student responses to hypothetical experiments and standard assessments about experiments to diagnose and gather information for helping students address their difficulties. This session will provide examples to help biology educators assess students’ abilities to use experimental and quantitative reasoning. The assessments will help enhance students’ approaches to the experimental and quantitative aspects of biology.