

West African International Summer School for Young Astronomers

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The West African International Summer School for Young Astronomers (WAISYYA) is a week-long program for university science students and teachers from West Africa to develop their interest in astronomy. The first summer school was held in Abuja, Nigeria, in 2013; the second Summer School was held in Nsukka, Nigeria, in July 2015. West Africa has a large number of students interested in science, but a paucity of facilities or interest from funding bodies in developing West African astronomy. Our broad goals for the WAISYYA program are: (1) to introduce West African students to astronomy; (2) to exchange ideas about teaching and learning in West Africa and abroad; and (3) to continue building a sustained astronomy partnership between West Africa and Canada. We now briefly describe three defining aspects of WAISYYA 2015.

- We designed our curriculum from evidence-based teaching strategies, emphasizing active learning and scientific thinking (e.g., Wieman 2014, NRC 2012, Chinn & Malhotra 2002). The curriculum included a two-day hands-on inquiry activity on the Cosmic Distance Ladder, interactive lectures with group discussions and multiple-choice voting, and a project where students designed their own astronomy teaching module to teach at their home institutes after the Summer School.

- The instructional team comprised astronomers from Canada, Nigeria, Germany, and Gabon. We held a workshop for instructors before the school, with goals of sharing evidence-based teaching strategies, and building collaboration and sustainability in the team. Instructors formed international pairs who collaborated to design their lessons using the teaching strategies we modeled and discussed in the instructor workshop. This paradigm builds on research on paired teaching for professional development in other contexts (e.g., Henderson *et al.* 2009, Stang & Strubbe 2015).

- We are evaluating outcomes of the Summer School in several ways. Students took the Colorado Learning Attitudes about Science Survey (Adams *et al.* 2006) and a set of astronomy concept inventory questions (e.g., Hufnagel 2002) at the beginning and end of the Summer School. Students wrote daily reflections about their learning, and also completed a school evaluation survey. We collected reflections from the instructors as well. All of these data are currently being analyzed.

The next WAISYYA will be held in Accra, Ghana, in 2017.

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