



National Aeronautics and  
Space Administration

A vibrant space-themed background featuring a large, glowing yellow sun in the center. To the left, a blue and white Earth is visible. To the right, a ringed planet (Saturn) and a gas giant (Jupiter) are shown. The background is filled with stars, a spiral galaxy, and a comet streaking across the sky.

# SCIENCE MISSION DIRECTORATE

**Kimberly Arcand**

National Federation of the Blind

July 26/27, 2017

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## **NFB: Making the Sky: Astronomy in 3D**

Kimberly Arcand, April Jubett & Kelly Williams (Chandra/SAO) ran 2 3-hour workshops with 20 visually impaired high school & college students total, along with 3 National Federation of the Blind (NFB) staff assistants at the NFB Youth Slam, on July 26 and 27 at Towson University, Baltimore.

Students learned about stars and light, before exploring the upcoming total solar eclipse with NASA tactile/Braille booklets on the Eclipse as well as “Touch the Sun”. Dr. Wanda Diaz Merced demonstrated sonification of variable stars remotely. Next, stellar evolution was introduced, with hands-on exploration of numerous NASA/Chandra 3D printed models (Cassiopeia A, SN1987A, & V745Sco), including tactile/Braille panels on supernova remnants.

Students contributed input to help improve the architecture of the 3D models for handling by blind and visually impaired audiences (an IRB was in place). Finally, the sessions ended with an exploration of a new Lego-based Cas A tactile model, with input solicited from the students, as well as a general Q&A.

