**Interactive Cosmology Visualization Using the Hubble Ultra Deep Field Data in the Classroom**

I am an undergraduate student under the direction of Professor Windhorst in the School of Earth and Space Exploration at Arizona State University. I am conducting a research study to determine the effectiveness and best practices for use with a new teaching tool: Appreciating Hubble at Hyperspeed (AHaH).

I am inviting your participation, which will involve taking a short survey at the end of the AST 113 class to get your thoughts on the AHaH tool. You have the right not to answer any question, and to stop participation at any time.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty - for example, it will not affect your grade in AST 113. You must be 18 or older to participate in the study.

We believe that the use of this tool will greatly improve your experience in AST 113, and by providing your feedback you can help us make this tool more widely available to enhance the education of other students. There are no foreseeable risks or discomforts to your participation.

Your responses will be confidential, with your ASU email address collected for confirmation purposes, but deleted upon completion of the survey. Only Professor Windhorst and I will have access to the survey data. The results of this study may be used in reports, presentations, or publications but your name will not be used – results will only be used in aggregate form (i.e. “X percentage of the overall survey group gave Y response”).

If you have any questions concerning the research study, please contact the research team at: [ljnolan@asu.edu](mailto:ljnolan@asu.edu), or [Rogier.Windhorst@asu.edu](mailto:Rogier.Windhorst@asu.edu). If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788. Please let me know if you wish to be part of the study.