A MULTICAMERA SYSTEM USING IMMERSIVE PROJECTION TO CREATE NATURAL VIEWS FOR STEERING A REMOTE VEHICLE. *J. Neiss, J. Parkes, D. Nyguyen, T. Stephany, M. Rosen*, Department of Color Science, Infinite Pixel Liberation Laboratory, Center for Imaging Science, RIT, jjn6233@rit.edu, rosen@cis.rit.edu.*

When controlling a remote vehicle through a camera positioned on it, a typical restriction is that only a small part of the surrounding scene is usually available at any one time to the driver. This prevents seeing the remote environment in a natural way. A single camera with spherical mirror to allow wide view of the environment has been unable to produce a high quality video image. A technique was explored for creating a panoramic video view using a multi-camera capture system mounted on the remote vehicle. A panoramic vision system with multiple cameras has an ability to capture maximum numbers of pixels that represent a full motion 360 degree spherical world. The design goals of our system are real-time, live view or recorded view, low cost, and scalable. We aligned horizontal multiple videos, captured from ordinary webcams to generate near-like panoramic video on immersive projectors. Other topics that were investigated this summer by undergraduates in the Infinite Pixel Liberation Laboratory (iPixLab) will also be introduced. These include the development for the Rochester Museum and Science Center (RMSC) of an immersive interactive exhibit to enhance the experience of watching the drum-oriented IMAX film *Pulse.* Visitors will be placed into a wide-view scene as they dance and play percussion.   A third project innovated a new approach to creating large format LED based screens for outdoor display. This will be briefly discussed.