PROJECT TITLE: “Characterization of brain activity in response to driving task complexity in an immersive virtual reality environment.”

FACULTY NAMES: Alex Drakopoulos and Scott Beardsley

STAFF: Chris Larkee

STUDENT NAMES: Matt Jung, Michael Drakopoulos, Rebecka Girard.

TIMEFRAME OF PROJECT: May – August 2014

RESEARCH SUMMARY: Three Engineering students, Rebecka Girard, Michael Drakopoulos and Matt Jung, worked with help from Visual Technology Specialist Mr. Chris Larkee, on a project that aimed to figure out what happens inside drivers’ brains when they are making left turns at intersections controlled by traffic lights. The project, proposed and directed by Dr. Drakopoulos of the Civil Engineering Department and Dr. Beardsley of the Biomedical Engineering Department, required the students to work on a literature search, create a three-dimensional virtual reality environment to test various driving scenarios and record driver eye and brain activity as drivers executed a left turn in a variety of intersection environments. The team aimed to identify which intersection configurations were easier for drivers to navigate safely, in order to help improve intersection safety. Project title: “Characterization of brain activity in response to driving task complexity in an immersive virtual reality environment.”

RESEARCH OUTCOME: Literature search, computer code for 3D model and interface with vision scanning hardware.

LOCATION OF RESEARCH ACTIVITIES: Engineering Hall,

COLLEGE RESOURCES: Neurosystem and Neurorehabilitation Imaging and Instrumentation laboratory, visualization laboratory.

COMMENTS: