1128-97-58   **Shiv Karunakaran*** (`shivk@math.wsu.edu`), Department of Mathematics and Statistics, Washington State University, PO Box 643113, Pullman, WA 99164, and **James Whitbread** and **Abigail L. Higgins**. *Uses of Neurocognitive Measures to Evaluate Cognitive Load During the Mathematical Proving Process.* Preliminary report.

Using fNIRS (functional near-infrared spectroscopy), we were able to measure subjects' cognitive load while working on mathematical tasks. fNIRS measures the difference between oxygenated hemoglobin and deoxygenated hemoglobin. Cognitive load is associated with an increase in oxygenated hemoglobin. Subjects were graduate students from our institution. Each subject was administered four mathematical tasks in increasing order of difficulty while wearing the fNIRS device. Our study seeks to better understand the connection between cognitive workload and mathematical proving activities. Additionally, we are interested in bridging the gap between mathematics education and neuroscience in order to better understand the learning and doing of mathematics. (Received February 08, 2017)