1086-N1-2734   **Stacy M Musgrave*** (`smusgrav@uga.edu`), Department of Mathematics, Boyd GSRC, University of Georgia, Athens, GA 30602-7403, and **Kevin C Moore**. *Conventions and Mathematical Meaning—An Exploration Through Functions and Inverses.*

A central purpose of mathematical conventions is to aid in the communication of mathematical ideas within the mathematical community. In an exploratory study conducted via clinical interviews of pre-service secondary teachers and pre-calculus students at the undergraduate level, we investigated the role of mathematical conventions in their thinking about functions, including inverse relations. Compatible with previous research, the participants' function and inverse meanings relied heavily on the representation under consideration and the participants struggled to conceive commonalities across different representations (e.g. graphical, numerical, and equation-based). Additionally, the participants' function and inverse meanings inherently involved mathematical conventions. Because of this, the participants often characterized peer posed solutions as incorrect if these solutions did not conform to common mathematical conventions (e.g., input on the horizontal axis and output on the vertical axis). These results highlight that conventions can constrain individuals' mathematical meanings and quantitative reasoning, rather than having conventions serve a supporting role for consistent communication, in the event that conventions become inherent aspects of their thinking. (Received September 25, 2012)