1116-VH-1090 **Nicole A. Fider*** (nfider@uci.edu) and **Natalia Komarova**. *A numerical method to explain how colors are categorized.* Preliminary report.

Color categorization in humans is a fascinating topic in psychology and linguistics. Understanding color categorization will shed light on how people think about the world in general. We are interested in the mathematics of formalizing the concept of human color categorization. Individuals can divide the color space in different ways; it is accepted that in a linguistically unified society, there exists a specific set of Basic Color Terms (BCT's below) and corresponding Basic Color Regions which the population agrees to use when categorizing the color space. We propose a mathematical method for identifying the BCT's of a given language based on real-world data. By defining a function which measures how well a color term is understood by the population, we can use a threshold value to separate the BCT's from the non-basic color terms. To demonstrate our method, we focus on cultures who are represented in the World Color Survey data archives. (Received September 16, 2015)