1086-VQ-2912   **Alessandra Pantano*** (`apantano@uci.edu`). *Exploring Escher's periodic drawings: A tour of mathematical ideas.* Preliminary report.

This talk will describe the process and outcomes of a MAA-sponsored 6-week full-immersion undergraduate research program conducted at UC Irvine in the summer 2012. Four minorities students, advised by the presenter, were tasked with the project of analyzing symmetry patterns in Escher's periodic drawings. The research touched on many different topics, from group theory to Fourier analysis, exemplifying the power of mathematics as a system of interconnected ideas. For the duration of the project, students worked in a team setting to catalogue Escher's drawings according to their symmetry groups, develop efficient algorithms for image processing, and interpret the data in a Fourier analysis context. This talk will discuss both the mathematical aspects of this NREUP project, including the final successful outcomes, as well as the organizational and logistic issues associated with leading research projects for undergraduate students. (Received September 26, 2012)