1116-K6-1960   **Frank A Farris*** (`ffarris@scu.edu`), Dept of Mathematics and Computer Science, Santa Clara University, 500 El Camino Real, Santa Clara, CA 95053, and **Ryan Tsao**. *Polyhedral Painting in WebGL with Group Averaging.*

The technique of group averaging produces colorings of the sphere that have the symmetries of various polyhedra. The concepts are accessible at the undergraduate level, without being well known in typical courses on algebra or geometry. The material makes an excellent discovery project, especially for students with some background in computer science; indeed, this is where the authors first worked through the material, as teacher and student, using WebGL to produce a previously unseen type of artistic image. The process uses a photograph as a palette, whose colors and textures appear in kaleidoscopic form on the surface of a sphere. We depict tetrahedral, octahedral, and icosahedral symmetries, with and without mirrors, along with the source photograph for comparison. We also describe a method to make images with color-reversing symmetry. (Received September 21, 2015)