

1096-05-2270      **Marston D E Conder\*** ([m.conder@auckland.ac.nz](mailto:m.conder@auckland.ac.nz)), University of Auckland, New Zealand,  
and **Ricardo Grande**, University of the Basque Country, Spain. *Embeddings of circulants.*

Circulants are Cayley graphs for cyclic groups, and admit dihedral symmetries. This talk is a brief account of some work on the genus spectrum of embeddings of circulants (on orientable surfaces), carried out when Ricardo visited Auckland as a ‘summer’ research student with Marston. The first part concerns the *maximum genus*. It can easily be shown that every connected circulant is *upper-embeddable*, having an embedding with just one or two faces. The second (and more challenging) part concerns the *minimum genus*. In the course of doing this work, several counter-examples were found to a claimed theorem by Costa, Strapasson, Alves and Carlos (2010) on toroidal embeddings (genus 1), and then all connected circulants having minimum genus 1 or 2 were completely determined. This involved a combination of mathematics and computer experimentation, some of which will be described, with illustrations. (Received September 17, 2013)