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**Mark Ellingham\*** (mark.ellingham@vanderbilt.edu), **D. Christopher Stephens** and **Xiaoya Zha**. *The orientable genus of complete tripartite graphs*. Preliminary report.

In 1969 White conjectured that the orientable genus of the complete tripartite graph  $K_{\ell,m,n}$ , with  $\ell \geq m \geq n \geq 2$ , is  $g(K_{\ell,m,n}) = \lceil (\ell - 2)(m + n - 2)/2 \rceil$ . In 1976, Stahl and White similarly conjectured that the nonorientable genus is  $\tilde{g}(K_{\ell,m,n}) = \lceil (\ell - 2)(m + n - 2)/4 \rceil$ . The authors verified the nonorientable conjecture (which is true with three small exceptions) in 2006. This involved examining four cases based on the parity of  $m$  and  $n$ . We have recently completed the proof of the orientable conjecture. This involved examining sixteen cases, depending on the values of  $m$  and  $n$  modulo 4. Some of the cases required significantly more work than any of the four nonorientable cases. We give an overall outline of the proof and discuss some of the techniques used. (Received August 29, 2017)