Spencer Tamagni* (stamagni8@knights.ucf.edu), Orlando, FL 32816, and Costas Efthimiou. Electric Fields from Geometry.

We explain, in a manner accessible to undergraduates and non-experts, how techniques from the study of compact Riemann surfaces may be employed to efficiently solve for electric fields on surfaces of non-trivial topology. A byproduct of this analysis is an intuitive visualization of elliptic functions when their argument is complex-valued. Our goal is to provide students and instructors a quick reference article for an extraordinary topic that is not included in the standard books. (Received August 16, 2020)