

Many Cheerful Facts

Organizer: Alvin Kerber

Wednesday Feb 22, 3-4 PM, 891 Evans

Speaker: Ethan Van Andel, UC Berkeley

Title: *Visualizing the Riemann Mapping Theorem*

The Riemann Mapping theorem is one of the most important results of complex analysis, yet we seldom see concrete examples of the maps it describes. There are, however, powerful numerical techniques for computing Riemann maps and visualizing their results. In other words, I have pretty pictures and I want to show them to you. In this talk I will present the Riemann mapping theorem, some concrete examples, and variations thereon. I will also present the methods used in computation and visualization of the Riemann map. Finally, I will show how one can obtain new results by combining numerical techniques with the theorems of complex analysis.

I am the very model of a modern Major-General,
I've information vegetable, animal, and mineral,
I know the kings of England, and I quote the flights historical
From Marathon to Waterloo, in order categorical;
I'm very well acquainted, too, with matters mathematical,
I understand equations, both the simple and quadratical,
About binomial theorem I'm teeming with a lot o' news,
With many cheerful facts about the square of the hypotenuse.
I'm very good at integral and differential calculus;
I know the scientific names of beings animalculous:
In short, in matters vegetable, animal, and mineral,
I am the very model of a modern Major-General.