

Many Cheerful Facts

Organizers: Jeffrey Galkowski and Alex Kruckman

Wednesday, 3:00pm-4:00pm, 1015 Evans

October 26.

Speaker: Alvin Kerber, UC Berkeley

Title: *Fair Elections and Arrow's Impossibility Theorem*

It is generally agreed that elections should be fair. This sounds hopelessly vague, but by representing an election system mathematically we can specify precise axioms for fairness. Unfortunately, a key theorem of Arrow states that no election system can possibly satisfy these axioms. After a brief introduction to some common election systems, I will state and prove Arrow's theorem and (time permitting) discuss ways of getting around it. References to real-world politics will be carefully avoided.

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.