

Fall 2010 Series

Science Café



Wednesday evenings • 7:15 p.m. • La Casbah, 6 Elm Street, Potsdam



Decision Making under Risk and Uncertainty

September 22

Decision making is using information to guide behavior among multiple possible courses of action — to move in some direction, to ingest

something or not, or to favor one romantic partner over another. Such choices determine the way an organism makes its way in the world, and hence its degree of success in meeting the challenges of life.

Join Clarkson University Psychology Professor Andreas Wilke for an interdisciplinary exploration into judgment and decision-making research and learn why the decision strategies modern humans (unconsciously) use are a result of the interaction between their evolved psychology and the environment in which they live.

tensors and the “cocktail party problem”

October 6

Imagine you are at a cocktail party. In this loud and crowded environment, you are able to follow and zero in on several sounds around you — music, conversation, laughter or even a siren outside. How can you do this? Although the science behind it is not completely figured out, it is known that humans can innately focus on one sound at a time among a mixture of sounds in a noisy environment. This is known as the “cocktail party problem.” Today, modern technology tries to mimic this fascinating human behavior.

Clarkson University Mathematics Professor Carmeliza Navasca will lead a discussion of how mathematics and “tensor” computation imitate the cocktail party problem and other equally astonishing feats.



what is physics? A personal perspective

October 13

Unlike “What is 2+3?” there is no easy answer to the question, “What is Physics?” Join Professor Royce K.P. Zia (Virginia Tech) on an amusing

and insightful exploration of this question, based on his life-long career experience, first as a theoretical particle physicist, then as a researcher in statistical physics. “Though it has given us advanced technologies, physics has yet to understand the magic all around us,” says Professor Zia. Illustrating with equations such as $2+1=3$, he will argue that physics is the easiest of sciences, and he will provide a bird’s eye view of a piece of Nonequilibrium Statistical Mechanics, the challenging frontier that’s been the topic of his interest during the last three decades.

The CSI effect: television and technology in the courtroom

October 20

Over the last 15 years, television has been inundated with programs that focus on the science of solving crimes.

Often those creating the programs misinterpret or embellish the actual state of forensic science, solving unsolvable problems within a matter of a few hours on the program. This has actually led to a measured change in the way prosecutors and defense attorneys select juries, as it is believed that seeing the “fake” science on television has changed juror’s attitudes towards forensic evidence in actual cases. Jurors now want to see better scientific results than is actually realistically possible, because they have seen these good results on TV. This phenomenon is known as the “CSI Effect.”

Join Clarkson University Mathematics Professor Aaron Luttmann as he discusses the current state of research on the CSI Effect, and uses a particular example to demonstrate the state-of-the-art in forensic imaging and how it is represented on television and in the courtroom.



exercise myths

November 3

Most of us would like to see a little less fat around our middle. But is it really possible to lose weight from just “problem areas” (also known as Spot Reduction)?

Unfortunately, it’s not going to happen. We will look at the physiology behind popular exercise myths to see why you can be fit yet overweight, why “no pain, no gain” is not a recommended mantra, and why weight gain as we age does not necessarily have to be inevitable.

Join Clarkson University Physical Therapy Professor Deanna Errico and explore some of the more popular exercise myths and find out why they don’t add up to good health when examining the physiology of the body.



Lies, Damned Lies and ...

November 17

Our modern world is flush with numbers, data and, yes, statistics. Statistics influence how we view and understand our world. Better understanding of where statistics come from and how to interpret them is an important skill for any citizen. By considering what statistics tell us, we can become more educated consumers of statistics.

St. Lawrence University Statistics Professor Michael Schuckers will lead a discussion of the basic concepts of statistics. Illustrations from recent events, including medicine and politics, will be covered.



Find out more about Clarkson’s Science Café at:
www.clarkson.edu/sciencecafe

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