

Spring 2010 Series ●

# Science Café

Wednesday evenings • 7:30 p.m. • Jack and Wezzie's Coffee House

**Local university professors and medical professionals facilitate informal and lively public discussions of important science-related topics as part of the Science Café series.**

**Join the conversation and relax with a cup of coffee or a meal as topics from Mayan calendar doomsday predictions and the importance of trace minerals to the secrets behind cryptology and strategic thinking for life are covered.**

## The Rise and Fall of Cryptography



Cryptography is the science of designing secret, unbreakable messages. The craft of cryptography has existed since the times of Caesar and has appeared in classic literary works such as Edgar Allan Poe's "The Gold Bug." In the past 40 years, cryptography has been revolutionized in the computer age by the invention of public-key cryptography. Everyone knows how to multiply integers, but it is surprising that undoing this simplest of operations is the foundation of modern cryptography.

**February 3**

Join Clarkson University Professor of Computer Science Tino Tamon as he outlines the story behind the rise and fall of public-key cryptography, from the unexpected power of number theory to the potential attacks of quantum machines.

## The games we play

How can a politician run a campaign to win an election? Is the threat of nuclear war actually good for peace? How can we make our kids eat their veggies? These are some of the issues in life that require strategic thinking. Game theory involves the analysis of conflicts, cooperation and communication, and can be described as the science that studies the art of strategic thinking. By educating ourselves in the art of strategic thinking, we can learn to become more astute managers, negotiators, athletes, politicians, economists and even parents.



**February 24**

Assistant Professor of Economic & Financial Studies Luciana Echazu, Clarkson University, will lead this exploration into basic concepts of game theory using several illustrations from political situations, personal experiences, movies and sports.

Find out more about Science Cafés in general at:  
• [www.sciencecafes.org](http://www.sciencecafes.org)

Find out more about Clarkson's Science Café at:  
• [www.clarkson.edu/sciencecafe](http://www.clarkson.edu/sciencecafe)

E-mail: [sciencecafe@clarkson.edu](mailto:sciencecafe@clarkson.edu)

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## calendars, sunspots and planning for 2013

In recent years, Hollywood and doomsday enthusiasts alike have posed the question, "Will the world end on December 21, 2012, as the Mayan calendar predicts?" According to some theorists, the winter solstice will line up with the line to the center of the galaxy, causing solar storms that will threaten our civilization, reversing the Earth's magnetic field and aligning the planets as the solar system plunges into the center of the galaxy.



**March 10**

This talk, led by St. Lawrence University Professor of Physics Aileen O'Donoghue will investigate what astronomers really expect of 2012 in an attempt to convince you not to cash out your 401k for one last fling before it all ends.

## why did the turtle cross the road and not make it to the other side?



**March 24**

There is no spot in the continental U.S. that is more remote than 22 miles from a road. In fact, roads and road rights-of-ways cover a land area within the U.S. as large as the state of South Carolina. What are the major environmental impacts of roads and road traffic, and what can we do to reduce these impacts?

Join Clarkson University Professor of Biology Tom Langen in a wide-ranging discussion about the field of road ecology and how biologists are working with transportation agencies to reduce the environmental harm caused by roads.

## How important are Trace Minerals?



**April 21**

You might have heard of the importance of trace minerals to our health and their role in such basic functions as normalizing the nervous system, stimulating growth, and maintenance and repair of tissues and bones. But what do trace minerals do specifically, how much do we need to consume for optimal health, and what is the proper way to guarantee their efficient absorption?

Join Alexandru Stoian, cardiologist MD, as he explains the workings and benefits of trace minerals, focusing on the specific cases of magnesium, zinc and selenium.