Abstract: Lecture 1: I will investigate some of our most primitive images of random phenomena: tossing a coin, shuffling cards, and rolling a roulette ball. In each case, a careful look shows that things are not so random. Connections to computer-generated, pseudo-random numbers and the use (and misuse) of statistical models are made.

Abstract: Lecture 2: The metropolis algorithm is one of the most used procedures in scientific computing. I will explain the algorithm, illustrate its use in cryptography and biology. Analysis of the algorithm lies mostly in the future.

Abstract: Lecture 3: A few magicians and gamblers can shuffle cards perfectly. I will show that eight perfect shuffles bring a 52-card deck back to order (demonstrations provided). The mathematics illuminates computer algorithms and leads to problems on the edge of what is known in number theory.

The lectures are held in honor of A. Everett Pitcher, who was secretary of the AMS from 1967 until 1988. Pitcher served in the mathematics department at Lehigh from 1938 until 1978, when he retired as Distinguished Professor of Mathematics. He died on December 4, 2006, at the age of 94.

Open to the public, free of charge.
For more information, call 610-758-3731 or visit http://www.lehigh.edu/math/web/pitcher.html