

Pathways Lecture Series in Mathematics, KEIO



Speaker : **Prof. Thomas Geisser**
(University of Southern California)

Lecture 1 16:30 ~ 17:30 October 6, 2006 (Friday)

Place: 14-203 (Seminar Room 3), Yagami Campus

Lecture 2 16:30 ~ 17:30 October 12, 2006 (Thursday)

Place: 14-203 (Seminar Room 3), Yagami Campus

Lecture 3 16:30 ~ 17:30 October 13, 2006 (Friday)

Place: 12-207, Yagami Campus

Lecture 4 16:30 ~ 17:30 October 20, 2006 (Friday)

Place: 14-203 (Seminar Room 3), Yagami Campus

Algebraic cycles and special values of zeta-functions

Given a system polynomial equations X , one can ask for the number of solutions in finite fields. Varying the finite field, this information can be encoded in the zeta-function of X , so understanding the zeta-function leads to information about the number of solutions. A useful method of studying the zeta-function of X is by attaching other invariants, and finding relationships between the zeta-function and these other invariants.

In the first talk we will give a general introduction to zeta-functions and formulas for the zeta-function at integers (which can be thought of as an analog of the class number formula for the Riemann zeta function). We will then discuss higher Chow groups, Weil-etale cohomology groups, and formulas for special values of zeta-functions.