

THE 2003 MAA NORTH CENTRAL SECTION SUMMER SEMINAR

A TOUR OF COMBINATORIAL GAMES

Elwyn Berlekamp

August 4-8, 2003
Gustavus Adolphus College
St Peter, Minnesota

<http://www.gustavus.edu/~wolfe/games2003>

Program

Throughout the twentieth century, games have been used effectively to popularize mathematics thanks to the efforts of authors such as Martin Gardner, John Conway and Raymond Smullyan. *Combinatorial game theory* is a rich and approachable unified theory, bridging recreational and abstract mathematics, bringing fun to fundamentals.

Unlike classical game theory, the field of combinatorial game theory analyzes two-player games of *complete information* where players take turns. A *complete information* game is one such as Chess, where the entire situation is known to both players. This is in contrast with Poker, where cards in opponents' hands are, presumably, hidden. The complexity of combinatorial games comes from the large number of possible sequences of moves rather than from lack of knowledge of an opponent's decisions.

This week long seminar will be a hands-on investigation of combinatorial game theory aimed at faculty from all fields of mathematics. Activities will include lectures, problem solving sessions, open problem investigations, tournaments, and computer exercises.

Our Guide

Elwyn Berlekamp started playing Dots and Boxes in grade school, and he never stopped playing. He is a professor in the Departments of Mathematics and of Electrical Engineering and Computer Science at the University of California, Berkeley. He is world renowned for his contributions to the fields of game theory and coding theory. A summary of his numerous distinctions in academics, business and public service can be found at <http://www.math.berkeley.edu/~berlek>.

Further information

Please visit our web site at <http://www.gustavus.edu/~wolfe/games2003> or contact

David Wolfe
Mathematics and Computer Science
800 West College Avenue
Gustavus Adolphus College
St Peter, MN 56082-1498

Phone: (507) 933-7469
Fax: (507) 933-7041
E-mail: wolfe+games2003@gustavus.edu