



Department of Mathematical Sciences welcomes

Donald Saari **University of California at Irvine**

Mathematics: From voting theory to the 'dark matter' mystery of astronomy

ABSTRACT:

A power and delight of mathematics is how discoveries in one mathematical area can transfer to provide insights about another. As indicated in this expository talk, learning what causes problems with voting—how groups decide—that come from the mathematical theory of voting outlines a program to analyze a variety of other topics, which includes that compelling mystery from astronomy of “dark matter.” What is “dark matter”? It will be explained along with possible resolutions of this astrophysical puzzle.

ABOUT THE SPEAKER:

Donald Saari received his PhD from Purdue University where his thesis analyzed the collision orbits of the Newtonian N-body problem. He then had a postdoctoral position at Yale University and then joined the Mathematics Department at Northwestern University where he served as chair of the department and became the first Pancoe Professor of Mathematics. His research centered on dynamical issues such as the evolution of the universe. He became interested in social sciences and became a member of the Department of Economics, the Department of Applied Mathematics and Engineering Science, and the Center for Mathematical Studies in Economics. In 2000 he moved to the University of California at Irvine and became a Distinguished Professor of Economics and Mathematics as well as the Director of the Institute for Mathematical Behavioral Sciences. He is the Chief Editor of the *Bulletin of the American Mathematical Society* and on editorial boards of several journals on analysis, dynamics, economics, and decision analysis. He is a past president of the MAA. He is a member of the National Academy of Sciences, the AAAS, a Guggenheim Fellow, the past chair of the US National Committee of Mathematics, chair of the US delegation to the 2002 general assembly of the International Mathematical Union, and a member of several NRC committees including Math Science Education Board. He has honorary doctorates come from Purdue, Université de Caen, and Michigan Technological University.

February 22, 2019

Hosted by:
Prof. Bruce Kitchens

Tea begins at 3:00
in LD 259

Research Topic
begins at 3:30
in LD 229

