



PIMS Distinguished Speaker:

Branko Grünbaum (University of Washington)

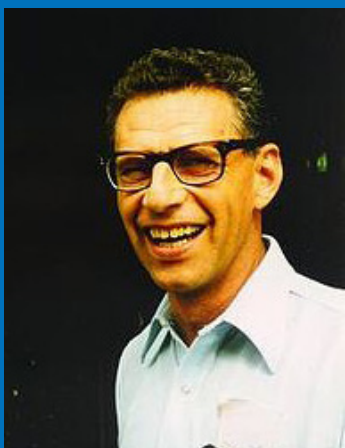
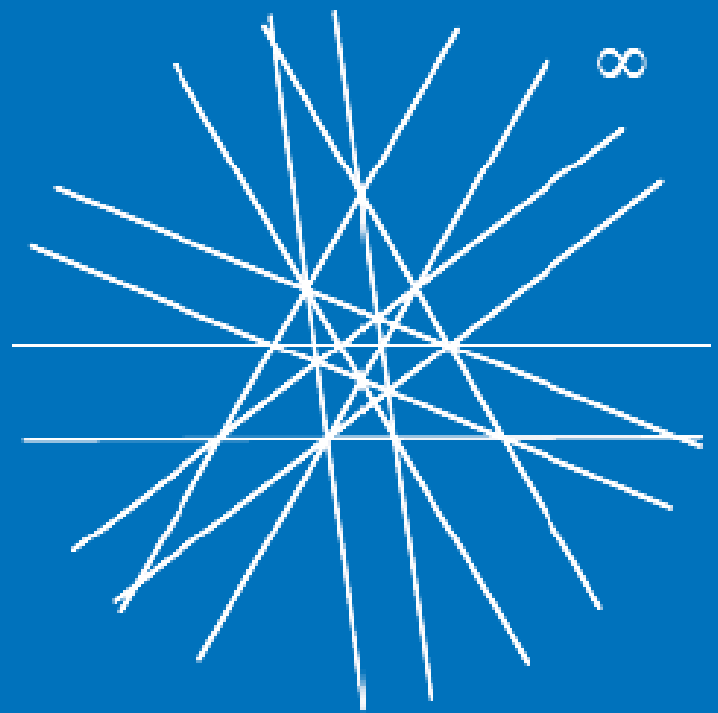
Friday, October 19, 2012

University of Victoria

2:30 pm, room ECS 660

SIMPLICIAL ARRANGEMENTS

A finite family of (straight) lines in the projective plane is a simplicial arrangement provided all faces (connected components of the complement) are triangles (simplices). Similarly for arrangements of (hyper) planes in higher dimensions. Starting with their first appearance in 1940, simplicial arrangements have attracted attention for their unexpected and unpredictable aspects. While originally investigated due to their extremal properties, more recently connections were found to various algebraic and combinatorial topics. Many open problems remain; most prominent among them is the question whether in all dimensions the number of sporadic (that is unsystematic) arrangements is finite. In particular, in the plane there are three infinite (systematic) families, and there are ninety-four known sporadic ones – but it is still possible that there is an infinite number of these.



*BRANKO GRÜNBAUM is a professor emeritus at the University of Washington, Seattle and a key pioneer in the theory of abstract polyhedra. Grünbaum's classic monograph *Convex polytopes*, first published in 1967, has become the main textbook on the subject. His monograph *Tilings and Patterns*, coauthored with G. C. Shephard, helped to rejuvenate interest in this classic field, and has proved popular with nonmathematical audiences as well as with mathematicians. . In 2005, Grünbaum was awarded the Leroy P. Steele Prize for Mathematical Exposition from the American Mathematical Society (<http://en.wikipedia.org>).*