COLLOQUIUM
UNIVERSITY OF PITTSBURGH
FRIDAY, SEPTEMBER 5, 2008

704 THACKERAY HALL

4:00 P.M.

PROFESSOR BERND KAWOHL

MATHEMATICAL INSTITUTE

UNIVERSITY OF COLOGNE

CONVEX SETS OF CONSTANT WIDTH, OR WHY GEOMETRY CAN BE OF VITAL IMPORTANCE

ABSTRACT: When does a steel pipe have an exactly circular cross section? When features constant exterior width from each angle? That could easily by verified with a big caliper or slide gauge, and this what used to happen in the process of assembling booster rockets for the spaces shuttle. The authors of the corresponding instructions had overlooked that there are geometric shapes, so called sets of constant width, that are not circles. This was a contributing factor to the Challenger desaster in 1986. In my talk I will point out that these odd sets show up in our daily life, and that there are interesting mathematical questions connected with them. The talk is directed at a general audience, not just mathematicians.

Refreshments served at 3:30 p.m.
in the Math Dept. COMMON ROOM, Thackeray 705