1116-52-148 **Yves Nievergelt*** (ynievergelt@ewu.edu), Eastern Washington University, Department of Mathematics, 216 Kingston Hall, Cheney, WA 99004-2418. *The Probability that Two Samples on a Convex Curve Have Disjoint Convex Hulls.*

While researching the rate of chemical reactions between acids and methyl acetate, Wilh. Ostwald (*J. Praktische Chemie*, 1883) conducted two identical experiments in parallel, and measured their equilibrium concentrations several times in each experiment. In experiments with trichloroacetic acid, both values in one sample x_1, x_2 exceed all three values in the other sample ξ_1, ξ_2, ξ_3 [mL/100]:

$$\xi_1 = 1358, \qquad \xi_1 = 1361, \qquad \xi_3 = 1362; \qquad x_1 = 1367, \qquad x_2 = 1367.$$

How likely will all the values in one sample exceed all the values in the other sample? Regardless of their probability measure, the probability that two mutually stochastically independent identically distributed samples with respectively j points and k points have disjoint convex hulls is $2(j!)(k!)/(j+k)!$ on the line and $(j!)(k!)/(j+k-1)!$ on any convex curve in the plane, which generalizes the same formula proved by L. C. G. Rogers (*J. Appl. Probab.*, 1978) for two samples *uniformly* distributed on the *circle*. (Received August 06, 2015)