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2023 Pi Mu Epsilon Lecture Series

UNIVERSITY *of* NEBRASKA–LINCOLN

Alex Iosevich

The beautiful world of Erdos geometry: points, lines and distances

Wednesday, April 26

4 p.m., 115 Avery Hall

Paul Erdos considered his greatest contribution to geometry to be his distance problem, which asks, how many distinct distances are determined by N points in d-dimensional Euclidean space, $d > 1$. Generically, the number of distances is approximately N^2, but distance may repeat, so the critical question is, what is the smallest possible number of distinct distances? We are going to discuss some elementary aspects of this problem, related problems in combinatorial geometry, and some unexpected applications. The emphasis will be interconnectivity between the various areas of modern mathematics.

Professor of Mathematics Alex Iosevich of the University of Rochester earned his Ph.D. from UCLA in 1993. As a world-class expert in Harmonic Analysis, Additive Number Theory, and Discrete Geometry, he has published over 140 papers and given about 400 math lectures worldwide (in more than 20 countries). He is the advisor of 27 Ph.Ds. (and 8 current Ph.D. students). Iosevich has also been the editor of many prestigious journals, including the Canadian Journal of Mathematics and Proceeding AMS.

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