



Frontiers of Mathematics Lecture

Geometry and Arithmetic of Sphere Packings



Date July 27, 2021 (Tuesday)
Time 8:30 - 9:40 pm (HKT)
Join via ZOOM <https://hku.zoom.us/j/91571766803>
Meeting ID 915 7176 6803



Abstract

The classical Apollonian circle packing is a geometric fractal which also exhibits surprising arithmetic properties. We give a classification explaining why such objects exist via the theory of hyperbolic arithmetic groups. We do not assume any familiarity with these objects, and the lecture will be accessible to a broad audience.

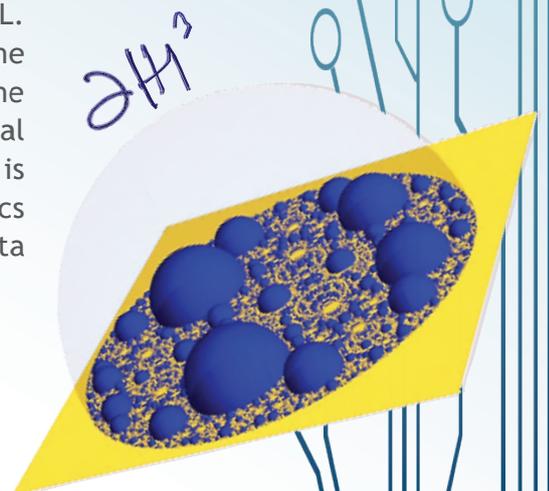
$$\left| \frac{z}{r} \right|^2 - \frac{1}{r} = 1$$

Professor
Alex Kontorovich
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Biography

Professor Kontorovich is a Professor of Mathematics at Rutgers University in New Jersey, USA. His research lies in the intersection of number theory, geometry, dynamics and representation theory, and he is a main figure in the development of the theory of thin groups. His scientific achievements are distinguished by multiple awards including an Alfred Sloan Research Fellowship, a Simons Foundation Fellowship and an NSF career award. In 2017, he was elected as Fellow of the American Mathematical Society and Kavli Fellow of the National Academy of Sciences.

Professor Kontorovich is also recognised as an outstanding communicator of mathematics. In 2013 he received the American Mathematical Society's Levi L. Conant Prize for mathematical exposition, and in 2020 he was appointed as the Distinguished Visiting Professor for the Public Dissemination of Mathematics at the National Museum of Mathematics. Currently Professor Kontorovich is the Editor-in-Chief of the journal *Experimental Mathematics* and serves on the Scientific Advisory Board of the *Quanta Magazine*.



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