

The Mathematics of M. C. Escher

G. Milton Wing Lecture Series

November 2016



WITH GUEST LECTURER

Doris Schattschneider

Professor Emerita of
Mathematics at Moravian
College in Pennsylvania

Mathematics and the Art of M. C. Escher

Sunday, November 20, 1 p.m., Memorial Art Gallery

PUBLIC LECTURE The imagery in M. C. Escher's graphic works not only makes obvious use of geometry but often provides visual metaphors for abstract mathematical concepts. This lecture examines mathematical concepts implicit in several of Escher's works, outlines the transformation geometry that governs his interlocking figures, and reveals how this "math anxious" artist actually did pioneering mathematical research in order to accomplish his artistic goals.

Lessons in Duality and Symmetry from M. C. Escher

Monday, November 21, 5 p.m., 202 Gavett Hall

PUBLIC LECTURE Escher (1898–1972) carried out mathematical investigations that led to symmetry drawings of three distinct kinds of tilings with two colors, capturing the essence of duality. In his prints he used several of these drawings as key elements that further expressed ideas of duality. One of the most complex of his "duality" tilings was realized in Delft ceramic tile, wrapped around a large column for a school in Baarn, Holland. Recently, a Salish artist in Victoria, British Columbia, has independently produced a tiling that contains many of the same elements as Escher's complex duality tilings.

Escher's Combinatorial Patterns

Tuesday, November 22, 3:30 p.m., 1106A Hylan Building

From 1938 to 1942, Escher carried out experiments in printing repeating patterns with small carved wooden squares that contained a simple motif of crossing bands, using a purely algorithmic scheme. He asked and answered combinatorial questions about these patterns and opened the door to many tantalizing questions that have recently been addressed by mathematicians and computer scientists.

Lecture Series Sponsored by
the Department of Mathematics



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ORGANIZED IN CONJUNCTION WITH THE EXHIBITION

M. C. Escher: Reality and Illusion

November 13, 2016–January 29, 2017
Grand Gallery, Memorial Art Gallery
500 University Avenue, Rochester, New York 14607

Drawn from the world's second-largest private collection of Escher's work, *Reality and Illusion* includes 120 Escher works: from early figure drawings and lesser-known book illustrations to detailed Italian landscapes and the "tessellations" for which he became famous.

