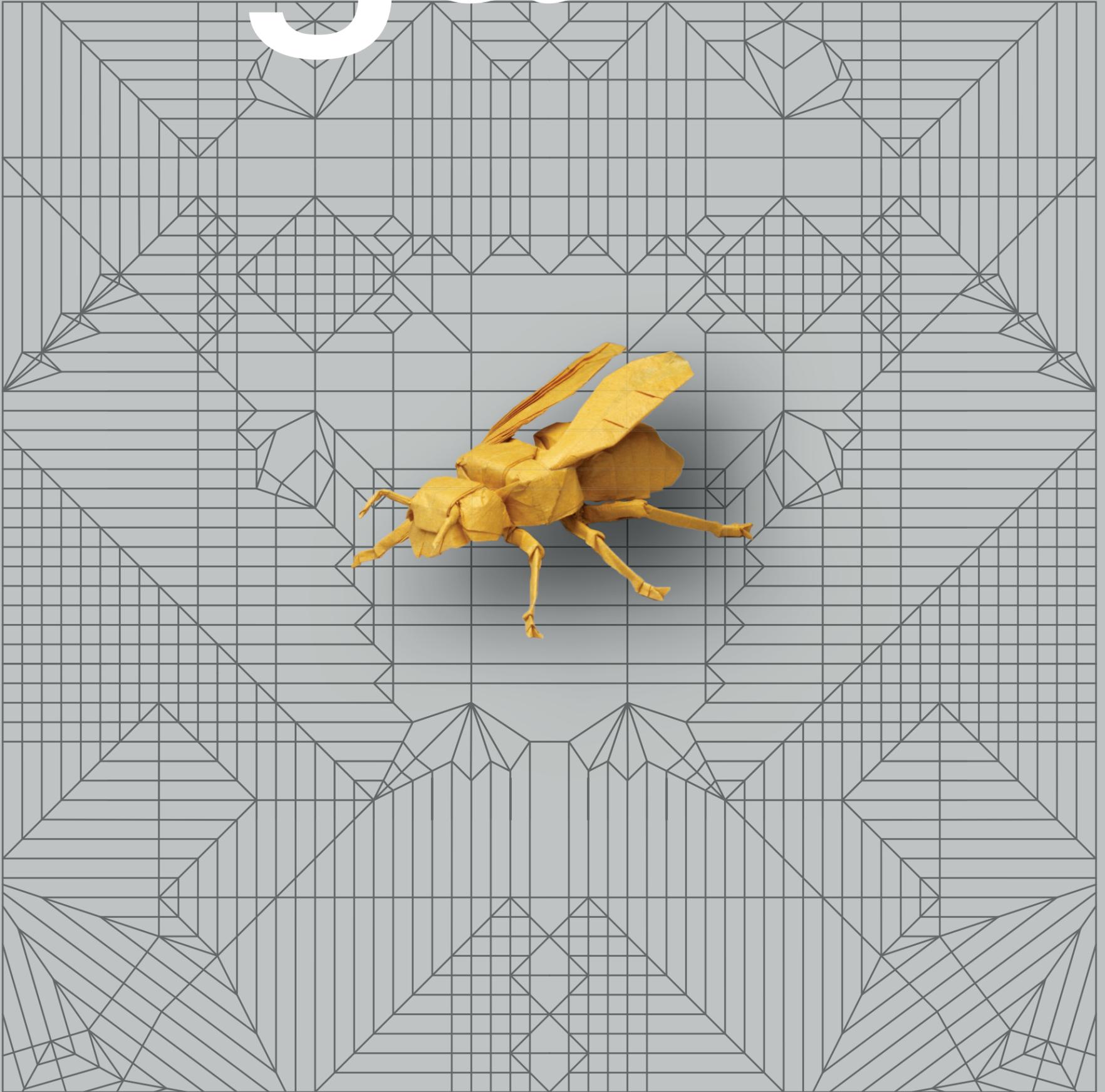


The Science of Origami

UNIVERSITY
OF ROCHESTER
G. MILTON WING
LECTURE SERIES
APRIL 2018



Robert J. Lang

SPEAKER

**PHYSICIST AND LEADING
THEORIST OF THE
MATHEMATICS OF ORIGAMI
(LANGORIGAMI.COM)**

**From Flapping Birds to
Space Telescopes: The
Modern Science of Origami**

**Wednesday, April 4, 5–6 p.m.
1400 Wegmans Hall
Public Lecture**

Recent years have witnessed a revolution in the development and application of mathematical techniques to origami, the centuries-old Japanese art of paper folding. This talk describes how origami changed in the 20th century from a simple craft to an art form of mind-blowing complexity and realism. Much of this development came from the discovery of the mathematics of origami, which, though developed for art's sake, has led to some surprising practical applications. The algorithms and theorems of origami design have shed light on long-standing mathematical questions and have solved practical engineering problems. Learn how origami has enabled safer airbags, Brobdingnagian space telescopes, and more.

**Microscopic to Monumental:
Origami in Wood, Bronze,
and Steel**

**Thursday, April 5, 7–8 p.m.
Memorial Art Gallery
Auditorium
Public Lecture**

Classical origami is made from paper and is ephemeral and fragile. But it need not be so! Applications both technological and artistic call for origami from such diverse materials as plastic, polymer, textiles, wood, bronze, and steel. This talk explores examples from Lang's work of rendering origami forms in these diverse materials in varied sizes, some in collaboration with sculptor Kevin Box. The works presented range from the world's smallest flapping bird to a 21-foot-tall steel Pegasus.

**Mathematical Algorithms
for Origami Design**

**Friday, April 6, 2–3 p.m.
1106A Hylan Building**

Beginning in the late 1990s, origami artists began bringing sophisticated mathematical tools to bear on the problem of origami design, resulting in remarkable advances in both art and in the technological applications of origami. In this talk, Lang discusses some of his own origami mathematical algorithms with examples in artistic, geometric, and technological origami, including the engineering-applicable subfield of rigidly foldable origami—origami made from rigid panels and hinges.