

Beat: Arts

## Seeing Symmetry: The Artful Mathematics of Wallpaper Patterns at MOMATH New York

April 2018 Math Encounter with F. Farris

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**USPA NEWS** - Professor of Mathematics and Computer Science at the Santa Clara University, California delivered a presentation on the topic of Symmetry and Mathematics at the Museum of Mathematics in New York City. An enthusiastic mathematician and mathematical artist, Prof. F. Harris wrote and published a book "Creating Symmetry: The Artful Mathematics of Wallpaper Patterns," in which he "offers a completely new waveform approach that enables you to create an endless variety of rosettes, friezes, and wallpaper patterns: dazzling art images where the beauty of nature meets the precision of mathematics" - the introduction to the book says.

His approach to symmetry is not standard, he rather mathematically creates-translates patterns from objects, using his complex waveforms. And he uses photographs as input.

An engaging mathematics-artistic talk at the museum involved a presentation part as well as a hands-on part, at which the audience had an opportunity to solve Wallpaper challenges - to classify the offered patterns. To the audience, there was offered an introduction to the classification of Wallpaper patterns, cell diagrams, the 17 Wallpaper groups, group concept, type of patterns, invariance, the Euler Formula in the relation to the Basic plane wave hues, color-reversing symmetry, 46 color-reversing types, symmetry-variations, non-Euclidean wallpaper, Polyhedral symmetry, virtual 3-D objects, musical output of the complex waveforms.

The special introduction was made by mathematician Dan King, Sarah Lawrence College.

The presentation caused a live interest from the audience and the Q and A section after the talk was a proof of that.

For more information, please, visit the website [www.momath.org](http://www.momath.org)

### Article online:

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