

# Yana Mohanty

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## *Summary*

Imathgination LLC designs and markets engaging, imaginative hands-on tools for exploring a wide range of mathematical concepts. These tools serve the teachers, parents, K-12 students, and adults looking for a mental challenge.

## *Education*

Ph. D. in Mathematics, UCSD, 2002

M.S. in Electrical Engineering, University of Massachusetts, Amherst, 1993

B.S. Magna Cum Laude in Electrical Engineering, UCLA, 1989

## *Current Professional Activities*

Founder, Imathgination LLC, 2014

## **Recent and Upcoming Speaking Engagements**

- California Mathematics Council, South, November 2018
- Joint Mathematics Meetings, January 2018
- California Mathematics Council, North, December 2017
- California Mathematics Council, South, October 2017

## **Teaching Teachers**

- Co-founder and instructor at the San Diego Math Teachers' Circle, 2011-present
- Designed and taught workshop for Teachers, California State University, Long Beach. *Wallpaper Patterns: Analysis and Exploration*. 2010
- Speaker at the Mathematics Diagnostic and Testing Project Conference on Geometric Reasoning, UCSD. *Geometry and the Imagination*. 2009

## **Teaching Students**

- Instructor, San Diego Math Circle, 2007 - present
- Coach, Ocean Air Elementary School Math Club, 2015-2017.
- Math League Instructor, Pacific Trails Middle School, 2017- present

## *Patents and Patent Applications*

- Mohanty, Y. "Set of Variably Assemblable Polygonal Tiles with Stencil Capability" 2015, U.S. Patent No. 9,070,300.
- Mohanty, Y. "Polygonal Tiles for Two-Dimensional and Three-Dimensional Symmetry Structures" 2016, U.S. Patent No. 949873.

## **Publications**

- Mohanty, Y. "Construction of a 3/4-Ideal Hyperbolic Tetrahedron out of Ideal Tetrahedra," *Discrete and Computational Geometry* 32:117-128 (2004).
- Mohanty, Y. "The Regge Symmetry is a Scissors Congruence in Hyperbolic Space," *Algebraic and Geometric Topology* (3), 2003, pp. 1-31.

## **Teaching experience**

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| 2008-2009 | Palomar College, San Marcos, California. Taught pre-algebra and algebra.  |
| 2002-2008 | UCSD, La Jolla, California. Calculus, Differential Equations.   |
| 1999      | Dartmouth College, Hanover, New Hampshire. Team taught "Geometry and the Imagination" with Peter Doyle.   |
| 1997-2002 | Teaching Assistant in the Mathematics Department, UCSD, La Jolla, California. Taught discussion sessions and computer labs for undergraduate mathematics courses. |
| 1996      | Chapman University, San Diego, California. Taught pre-calculus.   |

## **Research and Industry Experience**

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| 2002-2003 | Postdoctoral fellow, Department of Mathematics, UCSD, La Jolla, California.                               |
| 1994-1995 | Applications engineer, Loral Test and Information Systems, San Diego, California.                         |
| 1991-1993 | Research Assistant, Department of Electrical and Computer Engineer, University of Massachusetts, Amherst. |
| 1989-1991 | Member of Technical Staff, Hughes Aircraft Company, El Segundo, California.                               |