

# Illustrating Mathematics



## Program Overview

# Workshops

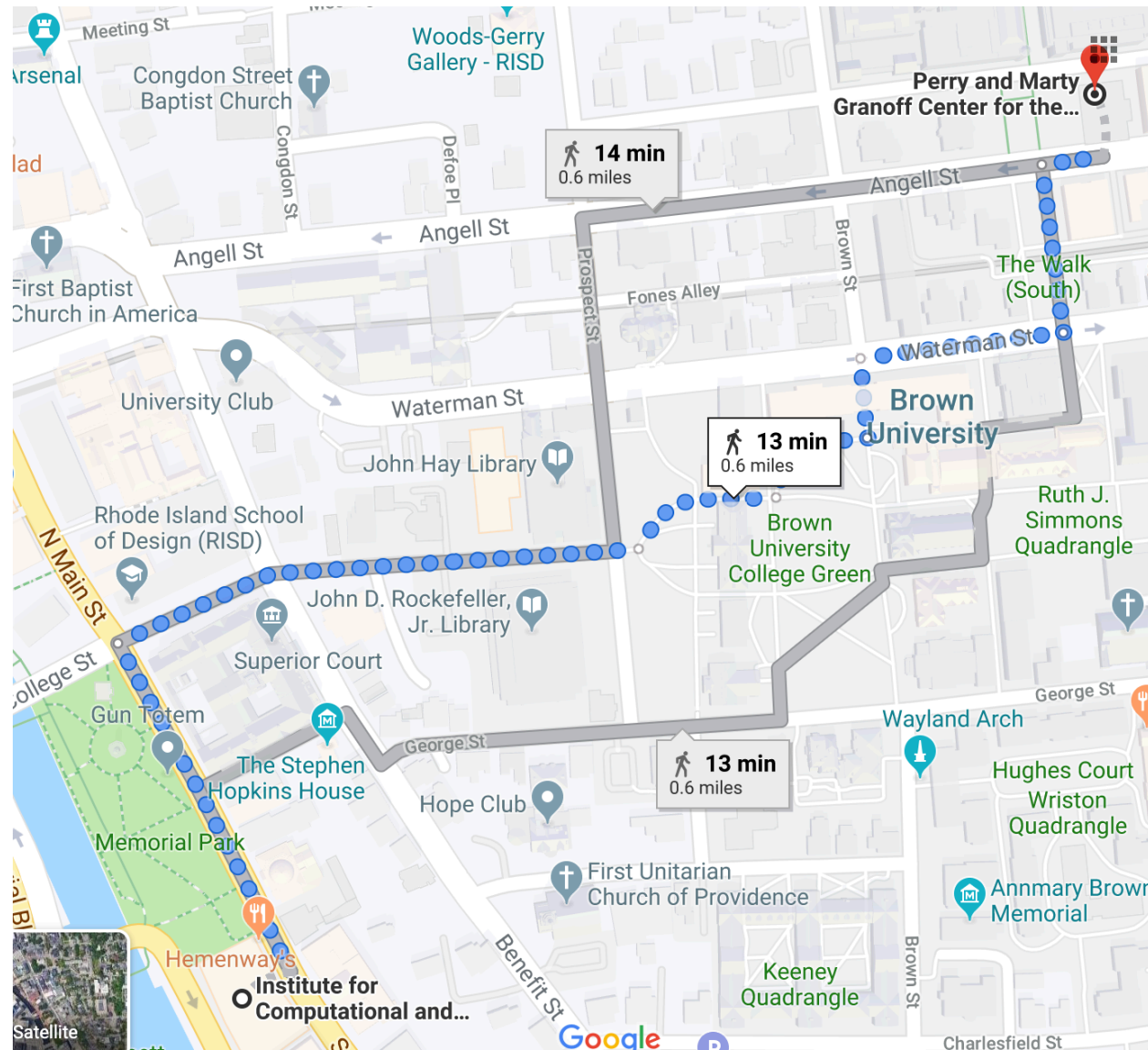
- Illustrating Geometry & Topology (Sept. 16-20)
- Computational Textiles Working Group (Sept. 23-27)
- Illustrating Algebra and Number Theory (Oct. 21-25)
- Illustrating Probability and Dynamics (Nov. 11-15)

## Math + Art Panels

Panel discussions will explore the different ways in which artists and mathematicians approach mathematical concepts. We expect a dynamic conversation that will spark continued dialogue and future collaborations.

# Math + Art Exhibit at Granoff Center

## Oct. 18th-Nov. 24th



# WaterFire

Fires are lit (until 12:30am) along the river (great view out of ICERM), and there are a lot of arts / community events listed in the program.

- ICERM will be having a Math + Art open house at the WaterFire event on Sept. 28th, 6-8pm
- Table leaders so far: Frank Farris (2D art), Saul Schleimer (3D art), John Edmark (Math in Motion), Sabetta Matsumoto (Computational Textiles), Harriss (Curvahedra)
- Looking for a “point-person” to help organize.

# Proceedings

(point person: Segerman)

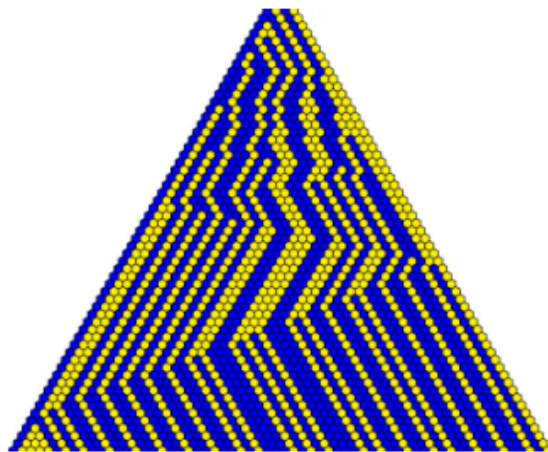
- We will likely have one.
- Saul, say a few words about the type of papers.
- Start thinking about what you want to write about.

# Project Website (Taalman)

## ILLUSTRATING MATHEMATICS

*ICERM Semester Program Fall 2019*

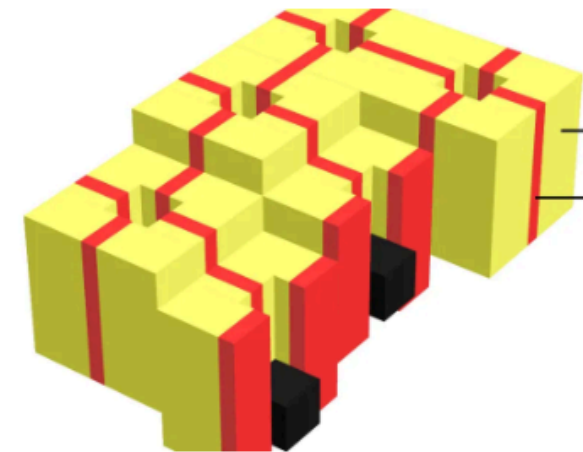
[PROJECTS](#) [PEOPLE](#) [WORKSHOPS](#) [BLOG](#)



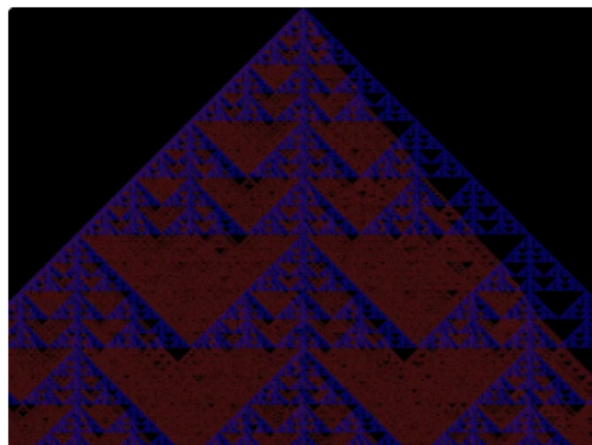
DERANDOMIZED PERCOLATION MACHINES



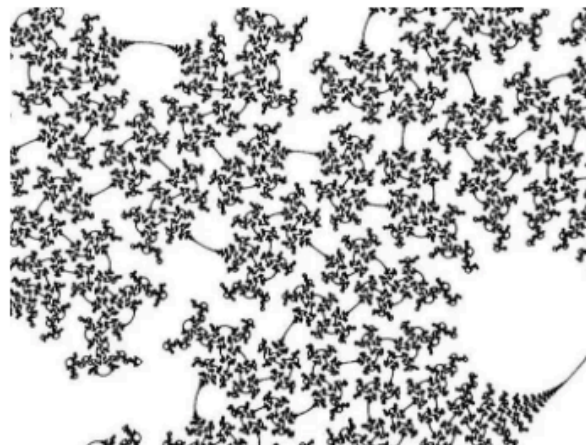
3D VISUALIZATIONS OF GRAPHS



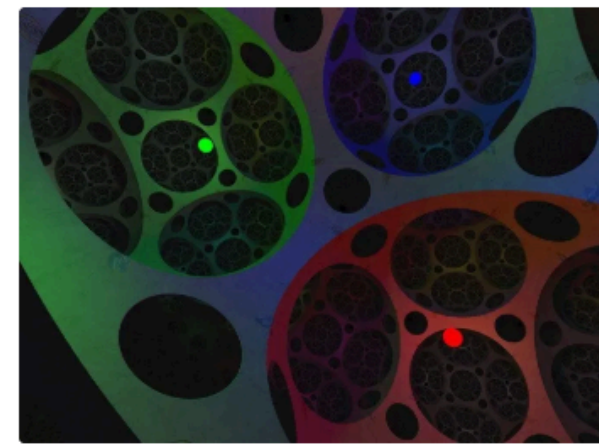
DEMOCRATIZING MATHEMATICAL ILLUSTRATION



RENDERING HUGE CELLULAR AUTOMATON  
UNIVERSES



BETTER PICTURES OF CANNON-THURSTON MAPS



RAY-MARCHING SIMULATIONS OF THURSTON  
GEOMETRIES



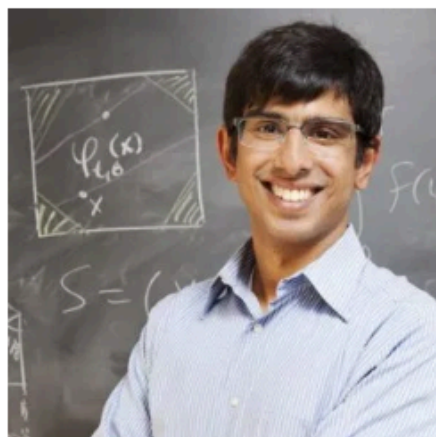
# bit.ly/ICERM/people

## ILLUSTRATING MATHEMATICS

PROJECTS **PEOPLE** WORKSHOPS BLOG

*ICERM Semester Program Fall 2019*

### ORGANIZERS



**JAYADEV S. ATHREYA**

University of Washington

Dynamics, geometry,  
sculpture, animation,  
fabrication, visualization



**DAVID BACHMAN**

Pitzer College

Geometric modeling,  
morphogenesis, 3D printing,  
3-manifold topology



**KEENAN CRANE**

Carnegie Mellon University

Geometry of surfaces,  
geometric algorithms, and  
mathematical illustration



**KELLY DELP**

Cornell University

Geometric topology,  
visualizations for education  
and outreach



# Equipment!



# 3D Printers & Laser Cutter





# Virtual Reality (VR)



# Tomorrow (Friday 9 / 6)

- If you have an iPad or iPhone, you may want it in the morning for Jeremy Kahn's morning seminar
- There is a Seminar Planning event in the afternoon.

More on seminars...

# Seminars, Courses & Workshops!

## **Definitely Happening:**

- **Geometry and Illustration, Rich Schwartz, T/TH 1-2:20pm**
- **Program Seminar (Organizer: Schleimer)**
- **Post-doc & Graduate student seminar (faculty not allowed)**
- **Knitting/Fiber Arts Circle (leader: Yackel)**

# Other Potential Activities:

- Workshops/Short Courses on 3D-printing (Rhino, OpenSCAD, Grasshopper)
- Workshops/Short Courses on VR (WebGL, Open Shading),
- Workshops/Short Courses on Laser Cutting
- Workshop on photographing artwork/editing in photoshop (Harriss)
- Working groups to learn/level up programming in Python, Processing....
- Workshop on writing expositional Mathematics
- Other ideas?

# Assignment for Friday afternoon: think about...

- What sort of seminars/shortcourses/activities are you interested in?
- What sort of seminars/shortcourses/workshops you would be interested in giving?
- What time you would most like to attend such events?