MSCS MESS

Department of Mathematics, Statistics, and Computer Science
St. Olaf College, Northfield, MN 55057
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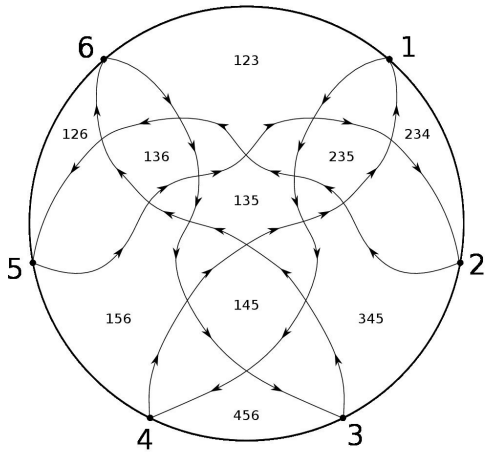
MSCS Colloquium

Color me combinatorial:
beauty from statistical mechanics
Whom: Kaisa Taipale (U of M)
Where: RNS 310
When: Monday, Feb. 19th | 3:30 p.m.

About the talk: It's easy to think that math is dead — nothing new since Euler, right? Totally symmetric self-complementary plane partitions (TSSCPPs), fully packed loop (FPLs), and domino tiling of Aztec diamonds say otherwise. These mathematical objects come up at the intersection of probability, combinatorics, algebra — and coloring! These very visual and frankly fascinating objects draw in mathematicians and non-mathematicians alike as order and patterns emerges from randomness. In this talk, I want to tell a story of modern math research that brings together beauty, computers, and a number of Midwestern mathematicians. Come for the colors, stay for the math!



About the speaker: Kaisa Taipale received her BS in math from Caltech and PhD in algebraic geometry from the University of Minnesota. After working at St. Olaf, MSRI, and Cornell, she came back to the lovely surroundings of St. Paul. Along with teaching math for finance at the University of Minnesota, Kaisa's interested in showing folks from a diversity of backgrounds that math can be accessible and attractive. A link to Kaisa's website can be found here https://www.kaisataipale.net/blog/product/math-with-crayons/.

Summer Undergraduate Research Opportunities

Math-Bio REU at Ohio State University
Details can be found at https://mbi.osu.edu/education/summer-undergraduate-program/, contact Tina Garrett **ASAP** if interested at *garrettk@stolaf.edu*.

CURI: Textbook Development for Statistical Modeling
Details can be found at http://elevator.stolaf.edu/curi//asset/viewAsset/5a83066829b2664864720541, contact Paul Roback if interested at *roback@stolaf.edu.*

CURI: Analysis, Dense Derivatives
Details can be found at http://elevator.stolaf.edu/curi/asset/viewAsset/5a80ba9229b2665c177cb7c1, contact David Walmsley if interested at *walmsl1@stolaf.edu.*

For a complete list of *CURI* projects, see http://elevator.stolaf.edu/curi/search/s/22faa5c6-4ade-4716-a39f-494a0b2adbb0. Additionally, https://www.mathprograms.org/db catalogs a variety of MSCS REU opportunities.

Black History Month

Throughout the long history of mathematics, Black mathematicians have made significant and lasting contributions to the field. During February, as we celebrate Black History Month, take a moment to peruse this article from the AMS chronicling historical and contemporary figures and stories highlighting the experience and importance of Black mathematicians http://www.ams.org/journals/notices/201802/rnoti-p118.pdf. Additionally, the website http://mathematicallygiftedandblack.com/ is a community platform for Black mathematicians, featuring the accomplishments of Black scholars in the mathematical sciences.

The Math Behind Bitcoin

Do you find the term Blockchain befuddling? Does Cryptocurrency sound more like the type of money a supervillain might use? Are you interested in " the Bitcoin", but too embarrassed to ask your savvy, suave investor friends? Have no fear, math is here! Below is an article written by a software engineer outlining the math behind "the Bitcoin" (with examples), using elliptic curves, finite fields, and modular arithmetic https://www.coindesk.com/math-behind-bitcoin/.

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