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Subject: lattice theory and applications / Hollywood actress Danica McKellar promotes my work

Date: Sat, 16 Dec 2017 19:49:52 +0000

Attachments: Universal_Algebra_meets_Actuarial_Science.pdf; RNA_Matrix3.pdf

Inline-Images: image.png

Hi,

Thanks for taking the time to Skype.

I just want to emphasize what Ms. Bandpey has done regarding counterterrorism. Let b be a positive integer. She proved a conjecture about finite partially ordered sets P with a top element such that no element has more than b lower covers: which one has the fewest cutsets? Vasek Chvatal and three computer scientists at McGill University proved a special case of the conjecture, for trees. They heard the question in a talk I gave at McGill in 2007, but in that same talk I also posed the question that Ms. Bandpey answered last year.

Vasek Chvatal is a highly respected combinatorialist. The chairman of Stanford University's Computer Science Department once called Chvatal "one of the two best young combinatorialists in the world".

<https://exhibits.stanford.edu/feigenbaum/catalog/bp674pb4626>

The U.S. Army gave me a grant of \$20,000 to write a monograph on this topic.

Here is Vaughan Pratt, professor of computer science at Stanford University, discussing with me something related to the problem I mentioned to you today:

<https://groups.yahoo.com/neo/groups/univalg/conversations/messages/866>

He was so intrigued by the problem, he wrote up 50 pages of notes!

At the top of page 276 of this next paper, MIT's Richard Stanley mentions something more or less the same as the open problem of counting the number linear extensions of a box (3 dimensions), but it is phrased in other language ("solid partitions").

<http://www-math.mit.edu/~rstan/pubs/pubfiles/12-2.pdf#page=18>

This is a major open problem I intend to solve using results about free distributive lattices.

I have corresponded with 2012 Nobel laureate in Economics Al Roth, who introduced me to students of his. Al Roth's first paper, as far as I can tell, was in my field, lattice theory.

<http://www.ams.org/journals/bull/1975-81-01/S0002-9904-1975-13672-X/S0002-9904-1975-13672-X.pdf>

Attached is the talk of the lattice theorist who works for the Swiss financial regulatory authority. He flew to Baltimore from Switzerland just to give this talk at my university.

I've also attached some work of the chairman of my department on RNA. The woman in the white blouse below, Ms. Ayat Kutbi, is working with our chairman on this topic.

http://www.morgan.edu/school_of_computer_mathematical_and_natural_sciences/departments_and_programs/c_computer_science/student_highlights.html

 Inline images 1

Here is lattice theorist Glenn Tesler, a former student of Richard Stanley at MIT. Tesler's work once graced the cover of the journal *Genome*, I believe:

<https://www.math.ucsd.edu/~gptesler/index.html>

What are you interested in regarding protein folding?

Regards,
Jonathan

P.S. Unrelated to our discussion, Hollywood actress and three-time *New York Times* best-selling author Danica McKellar promoted this week the business I co-founded, Peren Linn Fashion, writing, "Hey math lovers - my friend has a few cute items that would make fun gifts for the math fan in your life!"

https://twitter.com/danicamckellar/status/940767128864612353?ref_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%7Ctwgr%5Etweet