

Schedule

Friday, October 8

3:00 pm. Registration and refreshments in the foyer outside of Mead Auditorium.

3:30 pm. Welcome, Dr. T. Seethoff., Assoc. Provost and former Dean and Department Head

3:35 pm. First Plenary Lecture: Loren Graham. Title: *The power of names.*

4:35 pm: Contributed talks, round 1 (two parallel sessions, if needed).*

4:55 pm: Contributed talks, round 2 (two parallel sessions, if needed).*

5:30 pm: *Bach Before Dinner (Plus a Special Surprise)* Organ Recital, Igor Kriz, Organist, Reynolds Recital Hall.

6:45 pm: Dutch treat dinner for participants at UP Front & Company, a local restaurant.

Saturday, October 9

8:00 am: Coffee and refreshments and registration of new attendees in the foyer outside Mead Auditorium.

8:30: Second Plenary Lecture: Jean-Michel Kantor. Title: *Mathematics and Mysticism from Plato to Grotendieck.*

9:30 am: Contributed talks, round 3. (Two parallel sessions., if needed).*

9:50 am: Contributed talks, round 4. (Two parallel sessions., if needed).*

10:10 am: Contributed talks, round 5. (Two parallel sessions., if needed).*

10:30 am: Refreshment break

10:40 am: Third Plenary Lecture: Igor Kriz. Title: *"Simple" Puzzles*

12:00, noon. Lunch at the Vierling, a local restaurant, for those who want to stay and visit.

* When we have parallel sessions, one will be in Mead and the other will be in WS 2806.

CALL FOR PAPERS

If you would like to present a short contributed talk at the meeting, submit a brief title and abstract by e-mail to John Kiltinen, kiltinen@nmu.edu.

The abstract should be at most 100 words. The deadline for submission is Friday, October 1 or until the ten slots are full, whichever comes first (Any contributions received after the slots are filled will be returned.)

Talks need to be 15 minutes long at most. If you can keep them shorter there will be that much more time for questions and answers.

For more information, contact John Kiltinen, Professor of Mathematics Emeritus, Northern Michigan University using the e-mail address kiltinen@nmu.edu.

For the latest information, go to either of the Michigan Section-MAA or NMU Math & CS websites with the URLs www.michmaa.org or math.nmu.edu and follow the links to the meeting website. We will get titles and abstracts of contributed talks onto the website as soon as we can.

This meeting is supported by the Michigan Section-MAA and Northern Michigan University.

Upper Peninsula Regional Mathematics Meeting

October 8 and 9, 2010

Plenary Invited Lectures

by

Igor Kriz

University of Michigan



Loren Graham

Prof. Emeritus, MIT, History of Science

and



Jean-Michel Kantor

Mathematician & Historian of Mathematics,
Institut Mathématique de Jussieu, Université
Paris-Diderot

Plus contributed talks

Mead Auditorium
Northern Michigan University
Marquette, Michigan

About the Plenary Speakers

Graham and Kantor have recently coauthored a book titled *Naming Infinity* on the development of the concept of infinity. (See a review in last spring's *Mathematical Intelligencer*.) They will speak separately; Graham on *The Power of Names* and Kantor on *Mathematics and Mysticism from Plato to Grotendieck* but will be available to talk about their book informally with meeting participants.

Igor Kriz is a professor at the University of Michigan - Ann Arbor. He was featured in an article in 2008 in *Scientific American* about a project which involved using puzzles to help students understand the sporadic simple groups. He will give a talk titled "*Simple*" *Puzzles* about this puzzle work.

Kriz is also an organist. He will also give an organ recital in Reynolds Recital Hall on campus near the venue of the meeting on Friday before we go to dinner. The recital will include performances of four works by J. S. Bach and the world premiere of an organ transcription by Kriz of a work titled *Maailman Matti Times Seven* by Peter Hamlin, which has a mathematical subtheme.

It's Free!

There will be no registration fee for attending this conference. You will only have to pay for your own meals and lodging while here.

Lodging

We have made no lodging arrangements for general attendees. Make your own arrangements. One list of places to stay is available on the Marquette Country Convention and Visitors Bureau website at <http://marquettecountry.org>.

Fall Color

As of mid-September, the fall color season is starting around here. We'll do everything we can to have it peak on October 8.

How to Get Here

From the south or east: Come into Marquette on US-41/M-28. This is South Front Street. When you get to the roundabout where the highways go west to Negaunee via the bypass, keep in right lane and instead continue into Marquette on South Front Street. When you get to the downtown area, South Front becomes North Front at Washington Street. Continue on North Front going uphill for two blocks and then more gently downhill for many blocks.

Turn left (west) on College Avenue and continue to Eighth Street. Turn right (north) on Eighth Street and drive for two blocks. Turn left (west) on Fair Avenue when Eighth Street ends. (You are on the edge of the campus now.) After driving for about a half block, turn right (north) onto Elizabeth Hardin Drive. After a short drive, Lot 17 will be on your left and the West Science Building will be on your right.

From the west: You approach Marquette on US-41/M-28. When the highway bears to the right onto the bypass, you want to be in the left lane and take West Washington Street into town. This happens when the Holiday Inn is on your right.

Proceed on West Washington until you get to Lincoln Avenue, which intersects Washington from the north only. Turn left (north) onto Lincoln. Proceed on Lincoln to West College Avenue and turn right (east) onto West College. Drive for three blocks on West College and then turn left (north) onto Eighth Street and drive for two blocks. Turn left (west) on Fair Avenue when Eighth Street ends. (You are on the edge of the campus now.) After driving for about a half block, turn right (north) on Elizabeth Hardin Drive. After a short drive, Lot 17 will be on your left and the West Science Building will be on your right.

Parking

Since there are no classes that day, there should be plenty of parking in Lot 17 across Elizabeth Hardin Drive from West Science where Mead Auditorium is located.

Abstracts of Plenary Talks

Graham: The act of naming has throughout history often been linked to the exertion of power over the thing named. This concept is found in almost all cultures. In mathematics, naming plays an essential role because mathematical objects that have not yet been named are difficult to work with. Many great mathematicians have placed emphasis on naming as the path toward gaining control over the objects they just conceived, including Alexander Grothendieck and Nikolai Luzin (the latter the founder of the Moscow School of Mathematics). Luzin's approach to naming mathematical objects was original: he believed that the act involved both gains and losses. On the one hand, he gained control through naming. On the other hand, he believed that he lost the foggy and dark parts that our intuition whispers to us. Luzin was heavily influenced by the religious heresy—Name-Worshipping—in his development of Descriptive Set Theory. Name Worshippers believed that the name of God IS God. This influence has been largely missed by historians of mathematics because it has been condemned by two of the most powerful institutions in recent Russian history: the Orthodox Church and the Communist Party.

Kantor: We will examine various connections though ages between mathematics and mystical religious thought, with emphasis on the Russian "Name-worshippers" of Luzin's school and more recently Simone Weil's and Grothendieck's philosophy of mathematics.

Kriz: I will talk about and demonstrate Rubik's cube style puzzles based on sporadic simple groups of Mathieu and Conway. These computer-based puzzles were published in my joint article with Paul Siegel in the *Scientific American* and are available on my web page. The smallest of the puzzles can also be realized using John Kiltinen's puzzle-making software, and has purely mechanical versions (in prototype stage) due to Oskar Van Deventer and myself (which I will also demonstrate). I will show how these puzzles can help just about anyone with high school level math education learn about sporadic simple groups, which is normally considered an esoteric mathematical subject.