

THE SEAWAY CURRENT

Newsletter of the Seaway Section of the Mathematical Association of America

Volume 34, Number 1

Fall 2010

MAA Seaway Meeting:

SUNY Plattsburgh – October 15-16, 2010

The State University of New York College at Plattsburgh hosts this year's Fall Meeting of the Seaway Section on Friday, October 15th and Saturday, October 16th.

This year's impressive lineup of principal speakers is all from within the section. The program begins with the Friday evening banquet talk.

Friday Night

**Andrew Granville,
University of Montreal**

**The Anatomy of Integers
and Permutations**



Abstract: Different mathematical subjects have different basic objects — for example, integers for numbers, permutations in combinatorics and group theory. At first sight these objects come from such different worlds that they seem to have very little in common — How can one even begin to compare them? In this talk we will show how, with a little detective work, we can find ways to compare and contrast, by studying their "anatomy", and we will try to express this out of the usual context.

Saturday Morning

The Randolph Lecture

Kate Fowler, Clarkson University



**K12 Educational Outreach
in Mathematics: What?
Why? How! WOW!**

Abstract:

Outreach initiatives are examples of using government funds to create programs aimed at cultivating teacher leaders and increasing K-12 student achievement. Funding is especially available to support STEM (Science, Technology, Engineering, and Mathematics) disciplines by forming collaborations between universities and local school districts. As stated by the many funding agencies, our future workforce needs to be able to solve problems that are not yet even imaginable. In this talk we give motivation and an overview of some outreach activities that are focused on professional development and are student-driven. We discuss not only content, but challenges in recruiting help and implementing practices in the classroom. Ultimately, we hope to show that these activities enhance not hinder meeting state and national standards in mathematics while engaging students in integrated STEM curriculum.

Frank Swenton, Middlebury College



Animating Convergence

Abstract: The concept of convergence is the axis about which all of calculus spins, the root of every other major definition, concept, and theorem in the subject. Unfortunately, the limitations of the chalkboard and static printed media have hindered the presentation of this very dynamic concept, forcing us all too often to suppress its subtleties and speak instead merely of limits. In this talk, we'll take a different approach to the concept of convergence, eschewing the limit and introducing a set of very visual objects of study that properly display the full logic of the concept. We'll be introduced to an array of interactive Flash animations that provide us with

the opportunity to actively explore their every detail at our own pace, and finally, we'll move on to see the appearance of these objects throughout the calculus curriculum, from limits both of functions and of sequences to the derivative and the definite integral.

Louis Kauffman, UIC, Pólya Lecturer



Introduction to Knot Theory

Abstract: This talk is an introduction to knots. Knot theory is a branch of topology that studies the way one topological space can be placed inside another topological space. Thus knot theory is a study of the relativity of form. The simplest and most vivid example is classical knot theory where we study how (usually) closed loops of rope can be placed in three dimensional space. A loop all by itself is very simple, just a circle or a tube. But such an entity can assume infinitely many knotted forms in the way it can be embedded in three dimensional space. This talk will discuss how we make mathematical models for knots and links in order to tell them apart, and how these models lead to relationships with molecular biology, physics and many other areas of science and mathematics.

**The SEAWAY SECTION of the MATHEMATICAL
ASSOCIATION OF AMERICA**

2010 Fall MEETING

October 15-16, 2010 SUNY PLATTSBURGH

PROGRAM

**SEAWAY SECTION
MATHEMATICAL ASSOCIATION
OF AMERICA**

**2010 FALL MEETING
October 15-16
SUNY PLATTSBURGH**

PROGRAM

Friday Afternoon, Amnesty Room, Angel College Center

3:00 – 6:00 Meeting of the Executive Committee

Friday Evening, Angel College Center, Warren Ballroom

6:00 – 7:00 Social Hour (cash bar)

7:00 – 8:30 Banquet

8:30 – 9:30 Andrew Granville, University of Montreal
The anatomy of integers and permutations

9:30- 10:30 Math game show

Saturday Morning, Yokum Hall 202

08:40 – 08:45 *Welcome address, Dr. Kathleen Lavoie, Dean, Arts and Science*

08:45 – 09:35 **Frank Swenton, Middlebury College**

Animating Convergence

09:45 – 10:35 **Polya Lecture - Louis Kauffman, University of Illinois at Chicago**

Introduction to Knot Theory

10:35 – 11:00 **Business Meeting, Yokum 202**

11:10 – 12:00 **Randolph Lecture - Kate Fowler, Clarkson University**

K12 Educational Outreach in Mathematics: What? Why? How! WOW!

Lunch: 12-1:30 Warren Ballroom, Angel College Center

Saturday Afternoon, Hawkins Hall, Room 202

1:30 – 2:25 **Jeff Johannes, SUNY Geneseo**

Seaway NExT panel on "Classroom technology"

2:30 – 3:55 **Jane Cushman, Stephen West, Chris Monahan, James Matthews**

Panel on "The new core curriculum and how it affects NY schools"

Saturday Afternoon, Hawkins Hall, Room 209

1:30 - 1:55 **Chulmin Kim, RIT**

A salary model on baseball batters 'performance using K , a modification of OPS

2:00- 2:25 **Lan Cheng, SUNY Fredonia**

Combinations of "Combinations of P - values"

2:30-2: 55 **Wondimu Tekalign, RIT**

Stability of strongly anisotropic thin epitaxial film in a wetting interaction with elastic substrate

3:00 - 3:25 **Aaron Luttmann, Clarkson University**

PRISMs and Art: Imaging Science Meets Climate Science

3:30- 3:55 **Robert Reams, SUNY Plattsburgh**

Sufficient Conditions for Complete Positivity

4:00- 4:25 **Anurag Agarwal, RIT**

Representation Numbers and Prague Dimension of Graphs

Saturday Afternoon, Hawkins Hall, Room 214

1:30 – 1:55 Jim Marengo, RIT

A note on the Occurrences of Record Highs

2:00 – 2:25 Manuel Lopez, RIT

Lah Numbers, integer-valued self-inverse matrices and problems that call for them

2:30 – 2:55 James Halavin, RIT

Finding “Outside” Atoms in Proteins

**3:00 – 3:25 Patti Frazer Lock & Robin H. Lock
St. Lawrence University**

Give your Data the Boot: what is Bootstrapping and why does it matter?

3:30-3:55 Salvador Gutierrez, SUNY Plattsburgh

Distribution of Fibonacci Primes on a Pair of Complementary Beatty Sequences

Saturday Afternoon, Hawkins Hall, Room 229

1:30- 1:55 Gabriel Prajitura, SUNY Brockport
Convergence of series

2:00-2:25 Robert Sulman, SUNY Oneonta

The 7-Lemma (A pseudoprime construction)

2:30 - 2:55 Elizabeth Wilcox, Colgate University

The Ride, “The Scrambler”, Turned me into a Group Theorist

3:00-3:25 Patrick Rault, SUNY Geneseo

Pythagorean triples and generalized fractions

3:30-3:55 Jan Plaza, SUNY Plattsburgh
Representing Interval Sets in a Computer

Saturday Afternoon, Hawkins Hall, Room 231

1:30- 1: 55 Candace Schenk, SUNY Binghamton
Exquisite corpse as an explanation of factorial

2:00- 2:25 Xiao Xiao, SUNY Binghamton
Estimations of isomorphism number of F-crystals

2:30- 2:55 Dandrielle Lewis, SUNY Binghamton
Addressing Mathematical Deficiencies of Students in the Educational Opportunity Program

3:00-3:25 Matthew Short, SUNY Binghamton

Bread and Jam

3:30- 3:55 Daniel Hurwitz, Skidmore College

The Thirty Isogonal Pattern Block Tessellations

***Student Program:* Organizers: Derek Habermas, SUNY Potsdam & Ryan Gantner, St. John Fisher College**

Poster session Hawkins Hall, 2nd floor, 1-2 pm

Undergraduate students talks, Hawkins Hall 232, 249

Registration, Meals, and Refreshments

Registration will take place in the Angel College Center, second floor on Friday evening during the social hour from 6:00 to 7:00, and on Saturday morning from 8:00 until 10:00 in Yokum Hall. Beverages will be served in Hawkins Hall and Yokum Hall and lunch will be served in Warren Ballroom, Angel College Center.

Accommodations

A block of rooms at special conference rates has been secured at [The Best Western](#) 446 Route 3, Plattsburgh, NY 12901 (518-561-7750).

Meeting Website

<http://users.bestweb.net/~quenell/seaway/index.html>

NEXT MEETING:

2011 SPRING MEETING

NAZARETH COLLEGE

APRIL 1-2

Minutes of the Spring 2010 Business Meeting of the Seaway Section of the MAA

April 24, 2010 – SUNY Oswego

The business meeting was chaired by Margaret Morrow, Past Chair of the section, due to the absence of many section officers because of illness.

1. Agenda

1. Approval of the Minutes of the Fall 2009 Business Meeting
2. Governor's Report

3. Treasurer's Report
4. First Vice-Chair's Report
5. Executive Committee Report
6. Old Business
7. New Business

The Agenda for the meeting was approved

2. Minutes of the Fall Meeting of 2009

The minutes of the Fall Meeting were accepted.

Announcements

Margaret announced that Mark McKinzie, Chair of the section has sent a letter of resignation from the position. The Executive Committee has with regret accepted the resignation. Margaret thanked Luisa Kappe and John Maceli for their help with the section meeting.

3. Governor's Report

There was no Governor's Report due to the absence of Cheri Boyd for health reasons.

4. Treasurer's Report

Because of professional obligations, the Treasurer, Daniel Birmajer was not able to attend the meeting. He forwarded a snapshot of the Section's finances.

5. First Vice-Chair's Report

Due to illness Hossein was unable to attend the meeting.

The Fall 2010 Meeting will be held October 15 - 16 at SUNY Plattsburgh. Sam Northshield is the local organizer.

Polya speaker Louis The Kaufmann, University of Illinois

Banquet speaker Andrew Granville.

Thanks in absentia to Hossein for his work as program chair the last two years, and special thanks to Raluca Felea for her work on the program committee.

We are still looking for a venue for spring 2011.

6. Executive Committee Report

The Executive Committee discussed various aspects of governance and suggested an amendment to the by-laws that would allow an at-large member of the executive committee.

At this meeting there were 46 free student lunches requested (despite the option on the registration form for students to pay for their lunches). This is a large drain on resources of the section. It is not clear that the section can maintain this. Those at the executive committee meeting felt that since we were in transition, we were not in a position to take action on this matter but it is a problem that really needs action. The committee recommends that the executive committee be given a mandate to make temporary amendments to the free lunch policy for the Fall meeting if deemed necessary. The members at the business meeting approved this recommendation.

The Student program and Seaway NeXT are going strong thanks to Dereck Habermas and Jeff Johannes respectively.

7. Elections:

Charles Ragozinne was elected First Vice Chair.

Hossein Shahmohammed was elected Chair Elect.

Bob Rogers was elected to fill the remaining year in Mark's term as Chair of the section.

Gary Towsley was appointed to fill the position of Treasurer. (Daniel resigned the position due to professional obligations.) There will be an election for Treasurer at the Fall Meeting.

8. New Business

The new webmaster is Anurag Agarwal of RIT.

Treasurer's Report

Balance as of 02/05/2010	\$10,368.61
Spring Meeting Costs	
1. Lodging, Honoraria etc. for Saturday Speakers	\$637.57
2. General Meeting Expenses	\$4,282.00
3. Project NeXT	<u>\$159.32</u>
Total	\$5078.89
Spring Meeting Income (Registration etc.)	\$4969.25
Total Meeting	(\$109.64)
Balance after Meeting	\$10,258.97
Deposit (???) 07/21/2010	\$184.09
Balance as of 08/31/2010	\$10,443.56
(There is an undocumented \$0.50 to our credit)	

With generous contributions from departments the effect of the free lunch for students was a loss of \$109.64 for the Spring meeting.

