
January 2012
Issue 37

MINI-FOCUS is published by the Northern California, Nevada, & Hawaii Section of the Mathematical Association of America.

Editor:
Jim Sauerberg
Saint Mary's College

**Executive Committee
of the Section**

Chair:
Alon Amit
Facebook

Vice-Chair:
Brad Chin
West Valley College

Secretary-Treasurer:
Ed Keppelmann
Univ. Of Nevada, Reno

Program Chair:
Stephen Devlin
Univ. San Francisco

Governor:
Brigitte Lahme
Sonoma State University

Section website
www.ams.org/nocal

MINI-FOCUS

THE NEWLETTER OF THE NORTHERN CALIFORNIA, NEVADA, AND HAWAII SECTION, MAA
THE GOLDEN SECTION

Joseph Conrad Wins Section Teaching Award

Joseph Conrad of Solano Community College was the winner of the Section Award for Distinguished College or University Teacher of Mathematics for the year 2011. The award was presented at the annual section meeting at Santa Rosa Junior College on February 26, 2011. The following is adapted from the citation presented to Professor Conrad (see website for complete citation).

“As teacher, role-model, and colleague, Joseph Conrad stands out among his peers. He exerts a powerful influence on his students and his co-workers, urging them to strive for great things while showing by example how it can be done.

“Joe studied at the University of Maryland and Pennsylvania State University, earning the doctorate in 1988 with a dissertation on C* algebras. In 1994 he joined Solano Community College in Vallejo. Early on he recognized the need to modify his classroom presentations from teacher-centered approaches to ones more attuned to student interaction. Since then he has continually experimented until he is satisfied that his changes do contribute positively. He explains, “My favorite moment in teaching is when I look at a student and see the light bulb go on.”



**Joseph Conrad receiving his
award from James T. Smith**

“A major part of Professor Conrad’s career has been devoted to helping colleagues follow in his footsteps. At Solano, Joe volunteers as a mentor to part-time instructors, providing guidance on general practices that help make their first day of class less stressful.

Joe challenges students to expand their horizon of thinking, to develop an appreciation for mathematics as a subject in itself, to see the beauty in mathematics, and to understand its importance as it relates to other disciplines. He has been particularly effective in guiding student activities. His kind and open manner lets students know they can approach him at any time. A current student explains, “What enables Dr. Conrad to perform his job as well as he does is his sincere concern for his students’ well-being, and his natural gift for teaching.”

“We are proud to present this year’s Section Award for Distinguished College or University Teaching of Mathematics to an extraordinarily effective, inspiring teacher, Dr. Joseph Conrad.”

Report on the 2011 Meeting at SRJC

On the beautiful campus of Santa Rosa Junior college on February 26, 2011 the now Golden Section enjoyed the first meeting with its new name in a wonderful setting. In preparation for that meeting a somewhat funky online registration process asked participants to create their own 9-digit account numbers. The numbers tell a story (but you'll have to decide what that story might be!) We had counting forward and backward with 123456789 and 987654321. We had some well-known constants in 271828182 and 314159265, and someone was recalling history and doing computer arithmetic with 192719440 and 101010101. Thanks for your creativity!



Former Section Governor Frank A. Farris (Santa Clara) and first speaker Shirley Yap (Cal State East Bay) outside of Newman Auditorium

The day began with a delightful presentation from **Shirley Yap** of Cal State East Bay who told us about her article in *Mathematics Magazine* (Feb 2010) that shows that “Differential Equations are not just a bag of tricks!” Her exposition of ideas from **Sophus Lie** on choosing the correct coordinate system and finding the symmetry of each equation was very intriguing and insightful. This is the rest of the story I didn't know when I took diff eq oh so long ago.

There was not a dry eye in the house when former section officer **David Sklar** read a tribute to the section's own late **Constance Reid** written by long time family friend and MAA celebrity **Don**

Albers. You can see the full text yourself at the section's website. Reid's biography of **David Hilbert** is a tremendous accomplishment that will forever be a classic and her book *From Zero to Infinity* has inspired many young mathematical enthusiasts to pursue careers in our field. A quote from *Mathematical People* -- “mathematicians are people who devote their lives to what seems to me a wonderful kind of play” -- is certainly a great way to put into words what we all love so much.

The poster session was well attended with 14 posters on these diverse topics:

- **Greg Pinto** and **Brandon Dutra** of UC Davis: *Software for Exact Integration of Polynomials over Polyhedra*
- **Garrett Frey** of the University of Nevada Reno and the Desert Research Institute: *Morphology and Optical Properties of Combustion and Mineral Dust Aerosols*
- **Neeti Mittal** and **Anh Nguyen** of San Jose State University: *Isogonic Centers in Plane Geometry, Hyperbolic Geometry, and Spherical Geometry*
- **James Tipton** of CSU Fresno: *Invariants of Graphs in Euclidean 3-Space*
- **Andrew Gabriel, Jessica Enos, Emily Dreyer, and Jesse Cohen** of Santa Rosa Junior College: *Finally a use for Calculus: Intergalactic Warfare*
- **Jesse Cohen** also had *Euler's Formula: A Classic Result from Complex Analysis*
- **Seth Kingman** of San Francisco State University: *Explorations of an interesting function (if $a+b=2^n$ then $f(a)+f(b)=n$)*
- **Erin Kelly** and **Ryan Milhous** of Cal Poly San Luis Obispo: *Investigations on the Dimension to the Tangent Space of the Hilbert Scheme of Points at Borel Ideals*
- **Kevin He** of UC Berkeley and **Allen Chen, Rob Scharein** and **Mariel Vazquez** of San Francisco State: *Playing Hooky: Modeling the DNA Unknotting Action of Topoisomerase II*
- **Dido Salazar-Torres** of San Francisco State: *Marked Poset Polytopes*
- **Corwin Ziegler Hunts** of the ZH Academy: *Denesting Radicals*
- **Julian Zeigler Hunts** of the ZH Academy: *The Minsky Circle Algorithm*

- **Sandeep Peddada** of Lynbrook High School and **Alejandro Samaniego, Rob Scharein and Mariel Vazquez** of San Francisco State: *Using Knot Theory to Identify the Knot Type of Circular DNA Molecules*

- **Caleb Goerzen** of Simpson University: *Comparing Greedy Algorithms for Sorting with Input-Restricted Stacks*

William Stein from the University of Washington told us about his computational program / network / programming environment SAGE (which can be found at <http://www.sagemath.org/>) which is an open source alternative to Mathematica, Matlab, and the abstract structures package MAGMA. The beauty of this network is its ability to bring to one place much of the great mathematical computing software currently available.

After we proudly presented **Joe Conrad** of Solano Community College as our teacher par excellence, the luncheon talk was given by former section teaching awardee (and 2010 national **Haimo** award recipient) Dr. **Alan Rossman** of Cal Poly in San Luis Obispo. Alan reminds us to “Ask good questions”. His talk (which may be found at <http://statweb.calpoly.edu/arossman/>) contains an entertaining and VERY thought provoking collection of questions from the statistics courses he teaches. My favorite was “Can people better answer math problems if they are presented with Roman letter notation as opposed to Greek letter notation?”



Alan J. Rossman, excited about questions



Erik Demaine's images of blown glass

After lunch it was an absolute treat to hear from Polya Lecturer **Erik Demaine**. The audience delighted to the breaking news that Erik was just tenured in the EE CS department at MIT. He and his father **Martin Demaine** (also at MIT but in the art department) have developed a huge collection of puzzles, sculptures and magic tricks on the boundary between art and mathematics. Check out their interlinked web pages at <http://erikdemaine.org/> or <http://martindemaine.org/>. These include software for producing Origami folding instructions for any maze you might wish to design, a collection of puzzle books like “Games Puzzles and Computations”, videos, sculptures of gravity spirals and more. I personally really enjoyed a rope trick using finitely generated groups based on the cancellation that occurs when one of the generators is removed.

The last talk of the day was from MAA officer **Ivars Petersen** who told us about chaos in the solar system. Ivars, who is legendary for his expository writings both for mathematicians and others, showed us that while the insights of **Newton**, **Kepler** and **Poincaré** gives us our modern day understanding of orbits, period times and distances, on closer look there are chaotic elements which, because we do not yet know how to solve the three body problem (much less the n -body problem) are still a mystery.

We finished the day with a rousing math wrangle competition from two high school teams that had been training for this over the past month prior to the meeting.

It was a great day! With 179 attendees this is the third highest attendance in the last 6 years and 67 students is a tie with the Sacramento State meeting for the second best of all time. (And the section treasurer is very happy that thanks to great support from Santa Rosa Junior College we ran a budget surplus of over \$900 for the meeting!)

—Ed Keppelmann, *Secretary-Treasurer*

2011 Northern California Undergraduate Mathematics Conference

On April 16, 2011, students and faculty from 13 schools in the region gathered at the Stockton campus of the University of the Pacific for the Northern California Undergraduate Mathematics Conference.

Seventy students, 19 faculty, and a handful of alumni, emeriti, and college counselors arrived at the Biological Sciences Center to be welcomed by Provost **Maria Pallavicini** and math department chair **Dennis Parker**. Over the course of the day, there were 16 student presentations in 2 parallel sessions. All student presenters spoke for 15 minutes, and talks ranged from calculus and analysis to graph theory and operations research.

In addition to student talks, four Pacific alumni math majors comprised a career panel, which all participants attended before the lunch break. At the close of the student talks, keynote speaker **Deb Hughes Hallett** described various ways mathematics can be used to solve problems around the world.

The conference was sponsored by The Mathematical Association of America, via a Regional Undergraduate Mathematics Conference grant (supported by NSF grant DMS-0846477). For more information, visit: <http://www.maa.org/rumc/> A Pacific Fund grant through the College of the Pacific, and Phi Beta Kappa, Chi of California (at University of the Pacific).

—Chris Goff, *University of the Pacific*

NSF awards at SFSU

Three San Francisco State University Associate Professors of Mathematics won prestigious NSF CAREER multi-year research awards last academic year. According to the NSF, "These awards support junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and

research within the context of the mission of their organizations. Such activities should build a firm foundation for a lifetime of leadership in integrating education and research." The recipients and their projects are **Federico Ardila** "Matroids, polytopes, and their valuations in algebra and geometry," **Yitwah Cheung**, "Diophantine Analysis of Dynamical Systems;" and **Mariel Vazquez**, "Topological mechanism of DNA unlinking by the XerCD-FtsK system." It is very rare for a program that awards only bachelor's and master's degrees to have more than one CAREER project in operation!

—James Smith, *San Francisco State University*



Enjoying the day at Santa Rosa Junior College

Awards for Golden Section Geometers

At the August 2011 MathFest in Lexington, KY, three residents of the Golden Section received awards for distinguished expository writing:

Marvin Jay Greenberg, Professor Emeritus at the University of California, Santa Cruz, won a **Lester R. Ford** Award for his article "Old and New Results in the Foundations of Elementary Plane Euclidean and Non-Euclidean Geometries", which appeared in issue 3 of the *American Mathematical Monthly* in 2010.

James T. Smith, Professor Emeritus at San Francisco State University also won a **Lester R. Ford** Awards for his article "Definitions and Nondefinability in Geometry" from issue 6.

John Martin, Professor of Mathematics at

Santa Rosa Junior College, won a **George Pólya** Award for his article, "The Helen of Geometry" in issue 1 of the College Mathematics Journal, 41 (2010).

Geometry triumphs in the Golden Section!
—James Smith, San Francisco State University

Northern California (and Pacific Coast) Undergraduate Mathematics Conferences

The 8th annual Northern California Undergraduate Mathematics Conference will be held on April 21, 2012, at California State University Stanislaus in Turlock. The conference is a venue for undergraduate students to give and to listen to 15-minute talks, ranging from expository presentations to original undergraduate research. The Keynote speaker is Dr. **Reviel Netz** of Stanford University. In addition, there will be an invited address by Dr. **Colin Starr** of Willamette University.

See sites.google.com/site/nocalumc/home or contact nocalumc@gmail.com for updates and details. We hope to see you in April!

Our more southerly friends may be interested in the Pacific Coast Undergraduate Mathematics Conference, taking place on March 10th at Cal Poly Pomona. The PCUMC is designed specifically for undergraduate students who are majoring or have an interest in mathematics. The 2012 conference will feature free registration for all participants, talks by undergraduate students, a career panel featuring representatives from Google, the National Security Agency, operations research, and education, and a panel discussion focused on underrepresented groups in mathematics. The keynote speaker for is Dr. **Ron Eglash** who will introduce us to "Calculating Culture: African Fractals, Malaysian Buckyballs and other Adventures in Ethnomathematics" See <http://www.pcumc-math.org/> for details.

--Christopher Goff, University of the Pacific

Mathematically Wrangled

The 2011 section meeting concluded with a Math Wrangle. This is a team mathematical competition, incorporating elements of team sports and debate, with a dose of strategy tossed in for good measure. In addition to being good problem solvers, teams must learn to work together, give presentations and think on their feet, as well as listen carefully to and critique the presentations of others.

This activity, which makes math a spectator sport, is now a regular part of JMM and Math Fest on the national level. You can read about the rules and see some sample problems at the MCST Sigmaa's site <http://sigmaa.maa.org/mcst/>. There are even problems and rules for a gentler version of the sport to be used in teachers circles (called a math rumble).

The problems were constructed by **Dana Panquin** of Stanford and **Tatianna Shubin** of San Jose State University.

1. The product of two of the four zeros of the quartic equation $x^4 - 18x^3 + kx^2 + 200x - 1984 = 0$ is -32 . Find k .

2. Draw a convex polygon with n sides. Start connecting its vertices with diagonals, and when you can't draw any more without intersecting existing diagonals, count the total number. Find a formula for the total number of diagonals and for the total number of triangles formed, and show that these formulas do not depend on the manner in which the diagonals are drawn at each step.

3. Suppose that each lattice point of the plane is labeled by a positive integer in such a way that each label is the arithmetic mean (average) of its 4 neighbors (above, below, left, right). (Note: a lattice point in the plane is a point with integer coordinates). Prove that all of the labels must be equal.

4. Suppose that in rhombus ABCD, the measure of angle ABC is 120 degrees. Suppose further that we have points P on side AB and Q on side BC such that $AP = BQ$. Find the measures of the angles of the triangle PDQ.

5. Find all 3-digit numbers such that the number obtained by crossing out the middle digit is exactly $1/7$ of the original number.

6. Suppose that P is an arbitrary point inside a convex polygon with an even number of vertices. For each vertex of the polygon, draw a line through the given vertex and the point P. Prove that at least one of the edges of the polygon does not intersect any of these lines, except at that edge's endpoints.

7. Does the equation $19x^2 - 76y^2 = 1976$ have integer solutions?

8. Suppose that 2,000,000 points are chosen in the plane. Does there necessarily exist a circle such that exactly 1,000,000 of these points lie inside the circle?

—Ed Keppelmann, University of Nevada, Reno

Call for Student Posters for the 2012 Mathematical Association of America Northern California, Nevada, and Hawaii Section Meeting

When: Saturday, February 25, 2012

Where: Mathematical Sciences Research Institute, Berkeley California

What: Presentations of research, new approaches to old problems, solutions to problems from mathematics journals, results of class projects or mathematical modeling contests, historical investigations in pure and applied mathematics, mathematical topics outside the standard curriculum, or mathematical investigations arising from internship experiences.

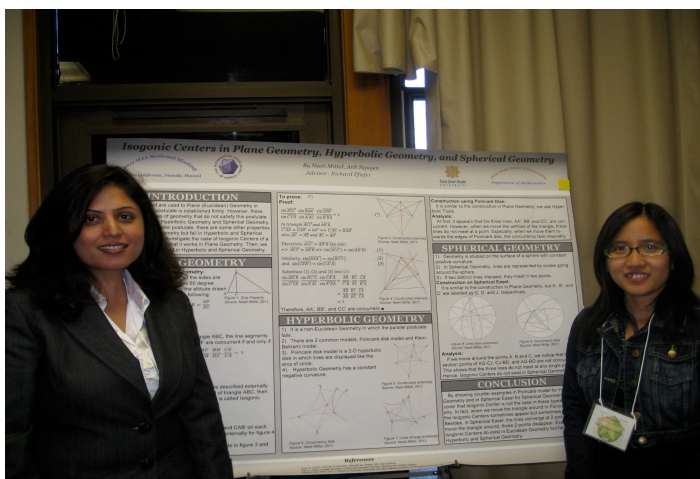
Who: All undergraduate and graduate mathematics students.

Why: The meeting provides a great opportunity to learn about interesting and entertaining areas of mathematics, as well as to network with other students and professors. Student presenters receive **complimentary registration and Saturday luncheon**, plus a **free one-year membership to the MAA** or (to those who are already members) a **free book**.

Details: Posters should be typed, illustrated, and should be 3 feet high by 4 feet wide. Posters will be on view throughout the meeting, including during a scheduled poster session.

What to do: If you wish to participate or have any questions (*e.g.*, whether your idea is appropriate for presentation) contact Professor Ellen Veomett. Participants are encouraged to have an e-mail address, possibly through a faculty mentor, where they can be contacted. Email your name and abstract (2 to 5 sentences), including poster title, name of institution, and name of faculty advisor (if applicable), to Professor Veomett, by Friday, February 17, 2012.

Contact: Ellen Veomett. Department of Mathematics, Saint Mary's College of California, Moraga CA 94556, (925) 631-8302 (Office), erv2@stmarys-ca.edu



San Jose State students Neeti Mittal (left) and Anh Nguyen centering in on hyperbolic geometry; Cornelia Van Cott (University of San Francisco) hearing about order and chain polytopes from Dido Salazar-Torres (San Francisco State University), from the 2011 student poster presentation.

**Call for Nominations
for the
2012 Mathematical Association of America
Distinguished College or University Teaching Award**

Each year the MAA identifies outstanding teachers of college mathematics and recognizes their achievements in the sections and at the national level. Initial nominations for the section Distinguished Teaching Award are due in early November 2012. (Please see the section website, which contains the application materials for the 2011 award. We do not expect significant changes for the 2012 award application.)

In past years the work of preparing nomination documents (letters of recommendation, teaching evaluations, etc.) has inhibited some potential nominators. To ease that burden, the award committee now uses a simpler, two-stage approach. Initial nominations, consisting of a simple form and a statement by the nominator, are due in early November 2011. After reviewing these preliminary nominations, the award committee will ask submitters of clearly competitive nominations to complete additional documentation for the Section Award and for consideration for a National Award.

The formal Call for Nominations and the Nomination Form files are available at www.maa.org/nocal. These files describe the award, eligibility requirements, and the timeline for review. The Nomination Form and statement by the nominator can be submitted via the postal system or electronically to either of the addresses listed at the bottom of the Nomination Form. An e-mail acknowledgment will be sent upon receipt of the nomination package.

Thank you for your assistance in this important effort.

Please direct questions to Professor James T. Smith, Awards Committee Chair, at Department of Mathematics, San Francisco State University, San Francisco CA 94132, smith@math.sfsu.edu

Previous Winners: An asterisk precedes names of winners of a national Haimo Award.

1992 G. D. Chakerian, University of California, Davis	2002 *Paul Zeitz, University of San Francisco
1993 *Paul R. Halmos, Santa Clara University	2003 Peter Tannenbaum, Cal State Fresno
1994 Jane Day, San José State University	2004 *Gerald L. Alexanderson, Santa Clara Univ.
1995 *Edward M. Landesman, UC Santa Cruz	2005 Russell Merris, Cal State East Bay
1996 G. Thomas Sallee, University of California, Davis	2006 Tatiana Shubin, San José State University
1997 Jean J. Pedersen, Santa Clara University	2007 William Fisher, Cal State Chico
1998 Donald C. Pfaff, University of Nevada, Reno	2008 John B. Thoo, Yuba College
1999 *Leonard F. Klosinski, Santa Clara University	2009 *Allan J. Rossman, Cal Poly San Luis Obispo
2000 *Evelyn Silvia, University of California, Davis	2010 Dennis Smolarski, Santa Clara University
2001 Wade Ellis, Jr., West Valley College	2011 Joseph Conrad, Solano Community College

Registration for MSRI MAA Sectional Meeting

Registration will be done online, at <http://www.maa.org/nocal>. You can register yourself and up to 6 of your associates in each session (using repeated sessions if there are more). Registration and lunch costs are:

(1) Registration: Regular \$15; Retired or unemployed \$5; Students \$1.

(2) Lunch: \$20.

To pay, please send a check payable to the MAA to

MAA 2012 Luncheon
Department of Mathematics and Statistics MS084
University of Nevada Reno
Reno, NV 89557

To complete your registration we need your check to arrive no later than February 21, 2012.

If you experience any problems, contact Ed Keppelmann at keppelma@unr.edu or 775-722-0658.

Directions and Parking

Directions to Mathematical Sciences Research Institute, Berkeley

The web site **www.msri.org** contains all the necessary information on getting to the meeting. Under the **For Visitors** tab you'll find driving directions to MSRI, information on parking, and public transportation options. This tab also includes links to a photograph of the two parking terraces just below the MSRI building.

Parking

Park either in the lot next to the Space Sciences Laboratory (just up the driveway from the MSRI building) or on the hill below the MSRI building. No permit is needed for weekend parking in these lots.

MSRI parking terraces: Enter either of the top two rows of the parking terraces. Climb the stairs to reach the MSRI building.

Space Sciences Laboratory parking lot: Pass the entrance to the MSRI parking terraces, and turn right on Gauss Way, the access road to MSRI and the Space Sciences Laboratory. (If you find yourself at the intersection of Centennial Drive and Grizzly Peak Road, you have gone too far.) The MSRI building is at the end of the driveway.

**THE MATHEMATICAL ASSOCIATION OF AMERICA
NORTHERN CALIFORNIA, NEVADA, AND HAWAII SECTION**

Saturday, February 25, 2012

Mathematical Science and Research Institute, Berkeley

All presentations held in Simons Auditorium

PROGRAM

- 8:30–9:30 Registration, Coffee Hour, Book Sales
Registration Fee: \$15 (\$5 for retirees; \$1 for students and unemployed)
- 9:30–10:20 **Cornelia Van Cott**, University of San Francisco
Creating New from Old: A Continuing Story in Knot Theory
Presider: **Bem Cayco**, San Jose State University, Incoming Vice Chair
- 10:20–10:30 **MAA Section Business Meeting**
Presider: **Alon Amit**, Facebook, Section Chair
- 10:30–11:00 **Student Poster Session**—Second and third floor hallways
- 11:00–12:00 **Francis Edward Su**, Harvey Mudd College
Voting in Agreeable Societies
Presider: **Ed Keppelmann**, Section Secretary and Treasurer
- 12:10–1:10 **Luncheon**—Collect lunch in Commons Room
Advance reservation for luncheon (\$20.00) is required. No other food is available at MSRI.
- 1:15–2:00 Presentation of the 2012 Section Award for Distinguished
College or University Teaching of Mathematics

Speaker: **Keith Devlin**, Stanford University
The Missing Link: A Tale of Literary Forensics
Presider: **James T. Smith**, San Francisco State University, Teaching Award Committee Chair
- 2:15–3:15 **Matthias Beck**, San Francisco State University
Combinatorial Reciprocity Theorems
Presider: **David Sklar**, San Francisco State University
- 3:15–4:15 **Ronald Fagin**, IBM Almaden Research Center
P vs. NP, and Community Refereeing in the Web Era
Presider: **Stephen Devlin**, University of San Francisco, Section Program Chair
- 4:30–5:30 Math Wrangle
Tatiana Shubin, San Jose State University, moderator

For updates, see section web site: <http://www.maa.org/nocal>

PROGRAM ABSTRACTS

CORNELIA VAN COTT, University of San Francisco; *Creating New from Old: A Continuing Story in Knot Theory*

Abstract: One can think of a mathematical knot as a knotted piece of string with the string's two ends glued together. Given a knot K , we can create an entire family of knots using different geometric operations on K . A difficult but interesting problem is studying how knots in such a family differ from the original knot K and from each other. We will discuss this problem using classical tools (such as surfaces and polynomials) and also using more recent techniques. No prior knowledge will be assumed.

FRANCIS EDWARD SU, Harvey Mudd College; *Voting in Agreeable Societies*

Abstract: When do majorities exist? How does the geometry of the political spectrum influence the outcome? What does mathematics have to say about how people behave? When mathematical objects have a social interpretation, the associated theorems have social applications. We give examples of situations where sets model preferences, and prove extensions of classical theorems on convex sets such as Helly's theorem and Turan's theorem that can be used in the analysis of voting in "agreeable" societies. This talk also features research with undergraduates.

KEITH DEVLIN, Stanford University; *The Missing Link: A Tale of Literary Forensics*

Abstract: A 2003-published study of a 13th century manuscript provided the final confirmation that Leonardo of Pisa ("Fibonacci") should be given primary credit for starting the personal computing revolution, and the associated development of modern banking, accounting, insurance, and international trading conglomerates, all of which took place in Italy between 1200 and 1500.

MATTHIAS BECK, San Francisco State University; *Combinatorial Reciprocity Theorems*

Abstract: Combinatorics is abundant with polynomials that count something when evaluated at positive integers, and many of these polynomials have a (completely different) interpretation when evaluated at negative integers: these instances go by the name of combinatorial reciprocity theorems. For example, when we evaluate the chromatic polynomial of G at -1 , we obtain (up to a sign) the number of acyclic orientations of G , that is, those orientations of G that do not contain a coherently oriented cycle.

Combinatorial reciprocity theorems appear all over combinatorics. This talk will attempt to show the charm (and usefulness!) these theorems exhibit. Our goal is to weave a unifying thread through various combinatorial reciprocity theorems, by looking at them through the lens of geometry.

RONALD FAGIN, IBM Almaden Research Center, *P vs. NP, and Community Refereeing in the Web Era*

Abstract: P and NP are "complexity classes". The problem of whether they are the same is renowned in computer science and mathematics, and a solution yields a Clay Millennium Prize of one million dollars, mathematical immortality, and deep insight into efficient computation. In August of 2010 there was a lot of excitement over the announcement of a possible solution: a claimed mathematical proof that P and NP are different, using ideas from mathematical logic and statistical physics. We will describe the P vs. NP problem at a high level. What is this problem? How is it important? We will also discuss the fascinating sociological phenomenon of mathematical refereeing in "internet time". Finally, we will discuss the idea of the attempted proof, and issues that were raised during the "internet refereeing" process.