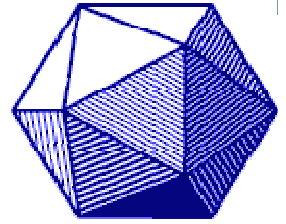


NEWSLETTER



Volume IV, Number 1

August 2009

Dates to Remember:

January 13-16, 2010
Joint Meetings in San Francisco

March 31, 2010
HOM SIGMAA Student Paper Contest deadline

Inside this issue:

2009 JMM	2
Mathfest 2009	3
Conference Calendar	4-5
History of Math Events	6-7
Ideas for Student Research Projects	8-9
<i>Convergence</i> call for papers	10-11
Reports and opportunities	12-13

RENOWNED ARCHIMEDES PALIMPSEST SCHOLAR TO SPEAK AT 2010 JMM (Details on page 3.)

2009 Joint Winter Meetings, Washington, D.C.

HOM SIGMAA and the Philosophy of Mathematics (POM) SIGMAA co-sponsored the annual guest lecture and a panel discussion at the JMM in Washington, D.C. Guest lecturer Chandler Davis, University of Toronto, spoke on “The Role of the Untrue in Mathematics.” The panel discussion, “The Intersection of the History and Philosophy,” was organized by Bonnie Gold (POM) and Amy Shell-Gellasch (HOM).

Panelists were Thomas L. Drucker (University of Wisconsin-Whitewater), Kenneth L. Manders (University of Pittsburgh), and Daniel C. Sloughter (Furman University).

Other math history events at the JMM included a performance of *Lewis Carroll in Numberland* by Robin Wilson (The Open University), an AMS-MAA Special Session on the History of Mathematics, and an AMS Contributed Paper Session on History. The AMS-MAA Special Session was organ-

ized by Joseph W. Dauben, Karen H. Parshall, Patti Hunter, and Deborah Kent. Finally, Robin Wilson introduced an MAA Special Film Presentation of *The Story of Maths*, produced by The Open University and filmed around the world by Marcus du Sautoy.

Also of note was a luncheon honoring retiring MAA Associate Secretary Jim Tattersall, who has provided oversight for the JMM and Mathfest programs for more than ten years.

Greetings from the HOM SIGMAA Chair

Dan Curtin, Northern Kentucky University

I greatly enjoy serving HOM SIGMAA as Chair. It is wonderful to share enthusiasm for history with so many

members and with non-members. The other officers make the Chair’s job much easier than it might be. Amy Shell-Gellasch has ably managed our programs

for years. Charlotte Simmons is doing a great job as Secretary and Treasurer. Andy Perry handles our web duties. Ed Sandifer is our Awards Chair.

2009 Joint Mathematics Meetings, Washington D.C.



Transfer of power: David Bressoud, MAA President, and Joe Gallian, MAA Past President. Photograph by Fernando Q. Gouvêa.



Robin Wilson, of the Open University and Marlow Anderson, of Colorado College.

Jim Tattersall, who is retiring from his position as MAA Associate Secretary, was honored at a retirement luncheon. Jim has organized all MAA national meetings for more than ten years.

Greetings from the HOM SIGMAA Chair (continued from page 1)

Dave Zitarelli is our past-Chair—a position I will soon be attaining!

We historians had a grand time January in Washington, D.C., including our HOM meeting and reception. The joint talk with POM SIGMAA, given by Chandler Davis, was a highlight. More details of the meeting are given on page 1 and in the photo spread. Although we did not officially meet at Mathfest, I hope many of you made it to Portland, OR. The Joint Meetings this January will be in San Francisco, CA, a wonderful place to visit.

HOM SIGMAA remains strong and improving, thanks to your support. Keep giving presentations, encouraging your students to write for the competition, and most of all, keep showing up at our sessions and meetings and encouraging the participation of our members. Please let us know any ideas that occur to you. As historians we study what is old, but we are always looking for something new!



Mathfest 2009, Portland, Oregon

Mathfest 2009, held in Portland, Oregon from August 6-8th, has just concluded as this newsletter goes to press. HOM SIGMAA hosted both an invited paper session and a contributed paper session. The Invited Paper Session was organized by Janet Beery, Amy Shell-Gellasch, and Charlotte Simmons, and featured talks by Janet Beery, Fernando Gouvêa, Stacy Langton, Charlotte Simmons, and Jim Tattersall. The Contributed Paper Session, “The History and Philosophy of Mathematics, and Their Uses in the Classroom,” was a joint session with POM SIGMAA. The all-day session included 24 presentations and was organized by Janet Beery, Bonnie Gold (POM), Amy Shell-Gellasch, and Charlotte Simmons. The Mathfest 2009 program also included a reading of a new play based on the life and work of Georg Cantor. *Count* was written by John Martin and Timothy Craig.



Fernando Gouvêa (right) spoke on “Emilia’s Arithmetic” in the IPS.

2010 Joint Winter Meetings, San Francisco, California

HOM SIGMAA is excited to announce that Reviel Netz, renowned Archimedes Palimpsest scholar, will be our annual guest speaker at the 2010 JMM in San Francisco. The meetings, to be held January 13-16, will also feature a short course organized by Amy Shell-Gellasch and Glen Van Brummelen: “Exploring the Great Books of Mathematics.” Watch for the call for papers in late summer or early fall for the contributed paper session “Mathematical Texts: Famous, Infamous, and Influential,” organized by Fernando Gouvêa and Amy Shell-Gellasch.

What HOM Sessions Would You Like to See at Future MAA Meetings? Keeping in mind that paper sessions, panel discussions, and special lectures are approved about a year in advance, please share your ideas for HOM events at the JMM and Mathfest with HOM SIGMAA Program Coordinator Amy Shell-Gellasch at shella@beloit.edu. Also, please let her know if you are willing to organize or co-organize such an event.



Thanks to Janet Beery for her outstanding years of service as Secretary-Treasurer for HOM SIGMAA. Janet is now the editor of *Convergence*.



Ed Sandifer, Western Connecticut State University, is the new Prize Coordinator for HOM SIGMAA. Ed is the author of the recent book, *How Euler Did It*.

2009 Meeting and Conference Calendar

ARITHMOS Reading Group

Danbury, Connecticut

Readings in the History of Mathematics from Original Sources seminars are 24-hour workshops on the classics of mathematics, read in the original or in an English translation. A dozen pages of mathematics is typically covered per session, which usually runs from 2 –6 p.m. on the first day, and 9 a.m. to 12:30 p.m. on the second. Organized by Ed Sandifer, Rob Bradley, and Chuck Rocca, ARITHMOS meets three to five times per year at Western Connecticut State University. The next meeting is expected to occur in September 2009. For more information, visit <http://www.arithmos.org/> or contact Ed at esandifer@earthlink.net.

The Philadelphia Area Seminar on the History of Mathematics

September 2009 – May 2010, Villanova, Pennsylvania

This monthly seminar meets at Villanova University, usually on a Thursday at 6 p.m., and begins with a light dinner. The September 17th presentation will be "Cryptology on Campus During World War II" by Craig P. Bauer of York College.

ORESME Reading Group

October 2-3, 2009, Cincinnati, Ohio

The Ohio River Early Sources in Mathematical Exposition (ORESME) Reading Group will meet at Xavier University to attempt a careful and critical reading of Gauss' work on the theory of errors, on the bicentennial of its publication. The readings will be the *Determination of an Orbit satisfying as nearly as possible any number of Observations whatsoever*, the Third Section of the Second Book of his *Theory of the motion of the heavenly bodies moving about the sun in conic sections (Theoria motus corporum coelestium in sectionibus conicis solem ambientium*, 1809), in its 1857 English translation by Charles Henry Davis, published by Dover in 1963. There will be two reading sessions, the first on Friday evening from 8-10 and the second on Saturday morning from 10-12. Participants are invited to join the group for dinner on Friday evening at 6 at a local restaurant and for breakfast on Saturday at 9:30 a.m. at the university. For more information, contact Danny Otero at otero@xavier.edu or Dan Curtin at curtin@nku.edu, or visit the ORESME web page at <http://www.nku.edu/~curtin/oresme.html>.

American Mathematical Society Western Section Meeting

November 7-8, 2009, Riverside, California

This meeting, to be held at the University of California, Riverside, will include a special session on the History and Philosophy of Mathematics organized by Shawnee L. McMurrin (California State University, San Bernardino) and Jim Tattersall (Providence College).

JOIN the HISTORY of MATHEMATICS SIGMAA!

The annual HOM SIGMAA membership fee for MAA members is \$10. The MAA membership form has a check-off box for HOM SIGMAA, and we ask you to check this box when you pay your annual MAA membership fees. If you have already joined or renewed for 2009, please consult the MAA at (800) 331-1622 and ask to join HOM SIGMAA. The membership fee for MAA members will increase to \$12 in 2010.

2010 Meeting and Conference Calendar

AMS-MAA Joint Mathematics Meetings (January 13-16, 2010, San Francisco, California)

In addition to the events already listed, the JMM will include two MAA Minicourses: “The Mathematics of Islam and Its Use in the Teaching of Mathematics” (organized by Victor Katz) and “Learning Discrete Mathematics Via Historical Projects” (organized by Jerry M. Lodder and David Pengelley). Craig Fraser, Deborah Kent, and Sloan Despeaux will organize an AMS-MAA special session on the history of mathematics, and Glen Van Brummelen (Quest University) will present “Reasonable Effectiveness: Trigonometry, Ancient Astronomy, and the Birth of Applied Mathematics” as an MAA Invited Address.

Annual Meeting of Americas Section of the International Study Group on Relations Between History and Pedagogy of Mathematics (March 13-14, 2010, Washington, D.C.)

HPM-Americas will hold its annual meeting at the MAA Carriage House (1781 Church St. NW, Washington, D.C.). For information, please visit <http://www.hpm-americas.org/> or contact Bob Stein at bstein@csusb.edu.

Smoky Mountain Undergraduate Conference on the History of Mathematics (March 20, 2010, Cullowhee, North Carolina)

SMURCHOM V will be held at Western Carolina University and will feature an invited address “Harmonic Series: A Primer” by Adrian Rice (Randolph Macon College). In his talk, Dr. Rice will present a succession of purported proofs on the divergence of the harmonic series and its relationship to the distribution of prime numbers. Abstracts from undergraduates for the poster session and for contributed paper sessions (“History of Mathematics” and “Mathematics Informed By History”) are welcome and should be sent to Dr. Sloan Despeaux at despeaux@wcu.edu. Limited housing for students is available on a first-come, first-served basis. Funding for this conference is provided by NSF grant DMS-0846477 through the MAA Regional Undergraduate Mathematics Conferences program, www.maa.org/RUMC. Another highlight of the conference is the History of Math Disc Golf Scavenger Hunt.

HOM SIGMA Student Paper Contest deadline: March 31, 2010

National Council of Teachers of Mathematics Annual Meeting (April 21-24, 2010)

The NCTM Annual Meeting and Exposition always includes several presentations and workshops on incorporating mathematics history into the classroom. See www.nctm.org for details.

Canadian Society for History and Philosophy of Mathematics Annual Meeting (May 29-31, 2010)

The annual summer meeting of the CSHPM will be held in conjunction with the Canadian Federation for the Humanities and Social Sciences at Concordia University in Montreal, Quebec, Canada. More details will be posted at www.cshpm.org as they become available.

MAA Mathematical Study Tour: Portugal and Spain: June 9-22, 2010 The 8th annual MAA Mathematical Study Tour is titled “Mathematical Riches of Portugal and Spain.”

2010 Euler Conference The eighth annual meeting of the Euler Society was held in Bristol, Rhode Island, July 12-15, 2009, and featured papers related to Euler’s contributions to mathematics, science, technology, philosophy, religion, or education. For details on the 2010 Euler Conference, visit <http://www.eulersociety.org/> or contact Ed Sandifer at esandifer@earthlink.net.

EVENTS CELEBRATE THE HISTORY OF MATH

2009 HOM SIGMAA Student Paper Contest

Amy Shell-Gellasch, Program Coordinator

HOM SIGMAA is pleased to announce the results of its sixth annual Student Paper Contest in the History of Mathematics. Nathan McLaughlin of the University of Montana won first place with his paper “The Mathematical Optics of Sir William Rowan Hamilton: Conical Refraction and Quaternions.” Second place went to Tim Chalberg of Pacific Lutheran University for his paper “Regression Analysis: A Powerful Tool and Riveting Drama.” Amy Buchmann of Chapman University received an honorable mention award for her paper “A Brief History of Quaternions and the Theory of Holomorphic Functions of Quaternionic Variables.” All three papers are posted on the HOM SIGMAA website at <http://www.homsigmaa.org/> and the *Convergence* website at

<http://mathdl.maa.org/mathDL/46/>.

HOM SIGMAA is also pleased to announce its seventh annual Student Paper Contest, with a **submission deadline of March 31, 2010**. Submissions and questions should be directed to Ed Sandifer, the newly elected HOM SIGMAA Prize Coordinator, at SandiferE@wcsu.edu. Additionally, those wishing to volunteer to judge the entries are invited to contact Ed well in advance of the submission deadline.

Save these dates for future MAA meetings!

Winter 2010	San Francisco, CA	January 13-16
Summer 2010	Pittsburgh, PA	August 5-7
Winter 2011	New Orleans, LA	January 5-8
Summer 2011	Lexington, KY	August 4-6
Winter 2012	Boston, MA	January 4-7
Summer 2012	Madison, WI	August 2-4
Winter 2013	San Diego, CA	January 9-12
Winter 2014	Baltimore, MD	January 15-18
Winter 2015	San Antonio, TX	January 10-13
Summer 2015	Washington, DC	August 5-8
Winter 2016	Seattle, WA	January 6-9

Several HOM SIGMAA members organized, led, and participated in meetings, conferences, and workshops featuring the history of mathematics this past year.

The **Midwest History of Mathematics Conference** was held at Viterbo University in LaCrosse, Wisconsin in October 2008. It featured talks by Susan Kelly, Dan Curtin, Lawrence D’Antonio, Charlotte Simmons, Rich Maresh, Wally Sizer, Thomas Drucker, Steve Hinthorne, Colin McKinney, and Daniel Otero. The plenary talk was delivered by Chris Christensen of Northern Kentucky University, “The Theorem That Won the War and Other Work of the World War II Polish Mathematician-Codebreakers.” The conference was organized by HOM SIGMAA Chair Dan Curtin and hosted by Michael Wodzak.

The **Americas Section of the International Study Group for Relations Between History and Pedagogy of Mathematics (HPM)** held its annual meeting at the MAA Carriage House in Washington, D.C. on March 14, 2009. The program included talks by Janet Heine-Barnett, Amy Ackerberg-Hastings, Betty Mayfield, Shirley Gray, Alexander Karp, Marina Voulis, David Roberts, Tom Bartlow, Michel Helfgott, and Ilhan Izmirlı. Participants had the opportunity to view rare mathematics books at the United States Naval Observatory Library in an event coordinated by Fred Rickey.



Fred Rickey and Betty Mayfield enjoy their tour of the USNO Library. Picture from the HPM-Americas website at <http://www.hpm-americas.org/>.

EVENTS CELEBRATE THE HISTORY OF MATH

Philadelphia Phreedom

David E. Zitarelli, Temple University

A certain mathematics document penned at 7th and High (now Market) Sts. in Philadelphia reads, "We hold these truths to be evident." Noble as that sentiment may be, it does not apply to PASHoM, the Philadelphia Area Seminar for the History of Mathematics, because the dozen regular attendees tend to question almost everywhere and assume only sets of measure zero.

OK, not really. I jest. PASHoM is truly a supportive organization whose aim is to help anyone interested in the history of mathematics, whether that person has written a paper on a historical topic, is preparing one, teaches a history course, or just wants to sit down among friends and listen to a lecture on the history of mathematics. Initiated in 2000 by this inimitable author and his more sober friend Thomas L. Bartlow, with a little help from their frenemy Paul Wolfson, PASHoM meets monthly from September through April on the tony Villanova University campus. (Sorry, Paul, I just wanted to use a new word from the latest version of Webster's!) A light meal is generally served at 6 p.m. with the lecture following and lasting until about 8 o'clock, taking into account pesky questions posed by inquisitive listeners.

The fall 2008 agenda included a lecture by Pat Kenschaft on minority mathematicians, a revelation by Steve Weintraub of the contents of a document by Arthur Cayley located in his own Lehigh library, a speculation by Dean Emeritus (that is a title, NOT a name) George Rosenstein on how Gibbs discovered his eponymous phenomena, and an attempt by Tom Bartlow to explain the inexplicable role of E.V. Huntington at Harvard.

The so-called spring semester started out in a snowstorm. Nonetheless, Yibao Xu braved the elements to commute from Princeton to tell tales about mathematicians and mathematics in China during the Cultural Revolution. In nicer weather, our good friend Paul Wolfson, inspired by the Weintraub explication of Cayley's document, resolved the question, "After Galois, What?" (Considering that topic, the word "resolved" was used rather cleverly, eh?) Next, Marina Vulis presented problems from some early Russian mathematics textbooks and finally John Bu-

kowski provided a very clever way to understand Christiaan Huygens' solution to the hanging chain problem.

So much for history. What about the future? The agenda for the fall is set as follows:

September 17, Craig Bauer, Cryptology on campus during WWII

October 8, Danny Otero, TBA

October 15, Frank Swetz, Glimpses of Chinese mathematics

November 19, Shelley Costa, TBA

December 10, John Dawson, Development of compactness

The spring lineup is still fluid. This author will speak in January unless a visitor from the AMS/MAA joint meeting suddenly appears. The estimable Eisso Atzema will get the main job done in March.

That leaves February and April, 2010, still open, so if you are looking for a friendly, supportive atmosphere in which to present a finished product or one in any stage of development, contact me at zit@temple.edu. We are always happy to invite speakers from the Philadelphia suburbs, which extend from NY on the north to DC in the south. Additional information, including definitions of TBA and a full spring lineup, can be found at our website: <http://www.villanova.edu/artsci/mathematics/pashom/>

Readers of this *Newsletter* might also be interested in a generalization of PASHoM that was inaugurated two years ago. Under the leadership of its director, Babak Ashrafi, a noted physicist and historian of science, the Philadelphia Area Center for History of Science (PACHS) has provided perspective on changes in science, technology and medicine that have shaped our lives. The Center makes use of the exceptional resources of the Philadelphia area to support research, to foster a vibrant community of scholars, and to build bridges between the scholarly community and broader audiences of all ages and backgrounds. For additional information, consult the PACHS website at: <http://www.pachs.net/> PASHoM members have found the PACHS calendar to be particularly useful:

<http://www.pachs.net/index.php/events>

Historical Research Projects For You and Your Students

V. Frederick Rickey, West Point

Senior research projects have become quite common so our purpose here is to suggest a number of topics that will make successful historical projects.

What makes a successful project? If a student is working on a project over a semester or longer and receives several hours of credit, then the instructor should demand a quality project. One standard would be that the student present the work at an undergraduate mathematics conference. Another could be that the instructor require that the student submit a paper to the HOM-SIGMAA undergraduate writing competition. All students should aim to get their work published in an undergraduate journal, the proceedings of a conference or in one of the MAA journals, although this is a high standard.

Since the student is doing historical research, it is imperative that original sources be used in the work. The student must read work of the mathematician(s) they are dealing with in that individual's own words (perhaps in English translation). It should not be based on secondary sources such as encyclopedias and the web, although journal articles should be required as they bring perspective to the history the student writes. Well, enough of philosophy. Examples are what are needed. We begin with a good one and a bad one and then contrast them.

A Successful Project

Some years ago I was teaching a history of mathematics course that involved the use of original sources. For the major paper of the term the students had to include both mathematics and history and they had to use original sources. In addition, they had to get my approval for a topic, although, admittedly, the topic was almost always acceptable; I wanted to be sure that they did not choose too broad or complicated a topic. One student came to me and said that he wanted to write about one of the Bernoullis. This was a fine topic, so I asked him about his Latin and French. When he said he had neither, I admitted that I knew of nothing that had been translated into English that he could use. Much to my surprise, a few days later he was back with a reference to a 1760 paper of Daniel

Bernoulli (1700-1782) that had been translated into English: "A new analysis on the mortality caused by smallpox and the advantages of inoculation to prevent it."

When he received a copy via interlibrary loan, I was pleased to see that Bernoulli used differential equations and statistics in the paper. So the student had the makings of a fine project. He approached it with enthusiasm, reading the paper carefully and using secondary sources to learn about smallpox and biographical information about Bernoulli. He wrote such a solid paper that I suggested he submit it to the committee of the Ohio MAA Section on student papers. He was awarded a prize for his work.

This topic was an especially good choice as it was the first paper to use differential equations in medicine. More interestingly, the equation which Bernoulli developed was the Logistic Equation, which is rightly credited to Pierre-François Verhulst (1801-1849).

An Unsuccessful Project

Being proud to have four African-American PhDs on our mathematics faculty at West Point we suggested that some cadets prepare a study of Women and Minority Faculty at West Point. We were aware that the first women graduated in 1980 and there were no women faculty before 1976; we were not sure when the first African-Americans joined the faculty, but suspected it was not long before. Identifying the individuals was difficult. There were group pictures of the faculty in yearbooks, but with some seventy people in a picture it was hard to pick out the minorities and the names – with only first initials – were of little help. Learning about the people was difficult; the department had personnel records, but could not give the cadets access to them. It was an interesting and worthwhile project, but a failure.

Note the difference between the projects. In the successful project, the student chose the topic, in the unsuccessful one, the faculty chose and the students signed on. In the successful project there was accessible and interesting mathematics, in the unsuccessful

one, there was none. In the successful project there was lots of interest when the information was presented at a meeting, in the unsuccessful one, no students cared much and neither did most faculty.

So be careful in taking on projects. Make sure there is interesting mathematics. It has to be familiar enough to get started, but hard enough to challenge the student. The pleasure in learning some mathematics that none of your classmates knows is not to be underestimated. Let the student choose the project, but guide them carefully. Don't let them choose a project that is too broad or too shallow. Your task as faculty is to please Goldilocks: This one is just right.

Two Projects Involving Translation

Calculus students already know the story about Johann Bernoulli teaching L'Hospital calculus. But what did he teach him? You can find out by reading L'Hospital's text or Bernoulli's lectures on the integral calculus. There are lots of neat things here. Lecture VIII is particularly interesting as Bernoulli uses the First Fundamental Theorem of Calculus to solve a geometrical problem. This is a project for those who know a bit of French, German or Latin.

The Early Mathematics of Leonhard Euler (MAA 2007) by C. Edward Sandifer is a description of the 49 mathematics articles Euler wrote in St. Petersburg, before moving to Berlin in 1741. About half of these articles have been translated into English; the remainder are fertile ground for student projects. Here is one suggestion: Euler's fourth, and most rigorous, proof that the sum of the squares of the positive integers is $\pi^2/6$ would be a good project for a student with a year of calculus and some French. A big advantage of translating a work of Euler is that the student's translation can be published on The Euler Archive.

Two Projects with English Language Sources

And finally a project in English, albeit Old English. Those of you who were fortunate to see the Galileo exhibit at the Franklin Institute in Philadelphia were doubtless puzzled to see all the astrolabes in the exhibit. What is an astrolabe, what is it used for, and how does one make one. In 1391, Chaucer wrote a work for those with the "abilite to lerne sciences touching nombres and proporcions". For an excellent explanation of how to make and use an astrolabe, see *A Variorum Edition of the Works of Geoffrey Chaucer. Volume VI: The Prose Treatises. Part One: A Treatise*

on the Astrolabe, edited by Sigmund Eisner, University of Oklahoma Press, 2002.

The history of surveying is an interesting topic. Perhaps your school once taught a course in surveying. What did it contain, and why? One could look at Ferdinand Hassler's survey of the East Coast or Jared Mansfield's work on setting up the rectangular surveying system in the midwest, but don't try to do everything. Lots of paths through this history involve mathematics and astronomy and fascinating individuals.

We could give many other examples of interesting projects, but as Fermat wrote, "hanc marginis exiguitas non caperet." Instead we have collected some other good projects, lots of references for the projects, and links to other interesting things at <http://www.dean.usma.edu/math/people/rickey/papers/Student-Projects.html>.



Jeff Suzuki, Brooklyn College, and Fred Rickey, US Military Academy

The annual meeting of the **Canadian Society for the History and Philosophy of Mathematics (CSHPM)** was held in St. John's Newfoundland in June 2009. Participants enjoyed the beautiful scenery and two wonderful sessions on the history and philosophy of mathematics. Many speakers from the states made the journey to speak at the conference, including Bruce Burdick, Michael Molinsky, Andrew Perry, Fred Rickey, Joel Silverberg, Charlotte Simmons, Jim Tattersall, Marina Vulis, and Maria Zack, who spoke in the History and Philosophy of Mathematics session organized by Tom Drucker. HOM SIGMAA Program Coordinator Amy Ackerberg-Hastings also made the trip and spoke in the History of the Relationship Between Mathematics and the Physical Sciences session organized by Tom Archibald. A good time was had by all.

Convergence Moves to New *Loci* But Keeps Mathematics, History, and Pedagogy Foci

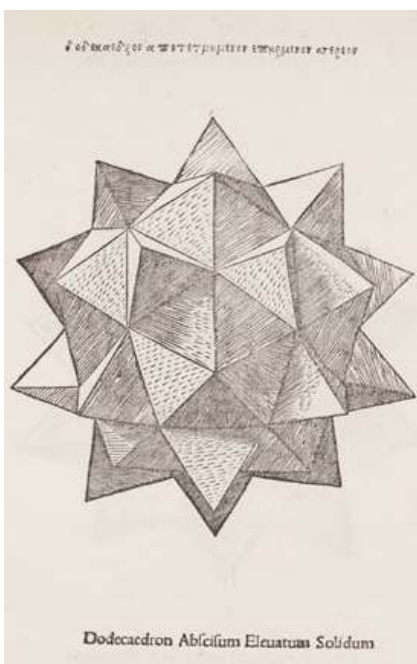
Call for Papers

Janet Beery, University of Redlands

Kathy Clark, Florida State University

Convergence: Where Mathematics, History, and Teaching Interact, is the MAA's free online journal about the history of mathematics and its use in teaching. Part of the Mathematics Digital Library (MathDL) and its online journal, *Loci*, *Convergence* is aimed at teachers of mathematics at both the secondary and collegiate levels. Topics are from grades 8-16 mathematics, with special emphasis on topics from grades 8-14: algebra, combinatorics, synthetic and analytic geometry, trigonometry, probability and statistics, elementary functions, calculus, differential equations, and linear algebra.

We encourage you to visit *Convergence* at <http://mathdl.maa.org/mathDL/46/> to see what the journal has to offer. We especially encourage you to view the article, "Mathematical Treasures", which features digital images of mathematical objects and texts from the Columbia University Library George Arthur Plimpton and David Eugene Smith collections.



On this page from his *De Divina Proportione* (1509), Luca Pacioli (1445-1509) presents a stellated dodecahedron. (From "Mathematical Treasures," *Convergence*, courtesy of Columbia University Library)

We invite you not only to read and use *Convergence*, but to submit for publication articles of the following types.

* **Expository articles** on the history of topics in the grades 8-16 mathematics curriculum ideally would contain interactive components, animations, color graphics, and/or links that take advantage of the online setting, together with ideas for using the material in the classroom. We invite you to share your expertise or to take the opportunity to learn more about a topic by writing an article about it! Math historians: Consider sharing with *Convergence* readers your latest mathematics history research, taking advantage of our online format and making suggestions for grades 8-16 classroom use. Mathematics educators: Share your latest research on the role of mathematics history in mathematics education or your latest history-based instructional materials (see "Classroom activities", below).

* **Translations of original sources**, accompanied by commentary explaining the work and its context, show *Convergence* readers how mathematical ideas were developed in various cultures and how knowledge of these developments can be used in teaching the same ideas to today's students.

* **Classroom activities, projects, or modules** may be designed for a few minutes, days, or weeks of instruction in grades 8-16 classes. Although most will be self-contained articles showing how to use history in the teaching of a particular topic, these products also may serve as companion pieces to articles published in *Convergence* or other MAA journals, providing instructions and/or materials for using information from those articles in classroom settings. We invite you to share with our readers how you are using the history of mathematics in your classroom!

* **Classroom testimonials** describe your experiences using a particular teaching aid, article, book, or website in the classroom. They may range from informal to formal evaluation, and the outcome may be adoption, adaptation, or rejection.

* **Reviews** of new and old books, articles, teaching aids, and websites should focus on evaluation of their utility in teaching.

We also welcome you to submit items for the following features.

* “Problems from Another Time” highlights **historical problems**.

* “On This Day” is a listing of two or three historic **mathematical events** that happened on each date.

* “Today’s Quotation” is a quotation about mathematics from a historical figure selected from a searchable database of **quotations**.

* The “Calendar” is an up-to-date guide to **conferences** around the world that feature or include the history of mathematics and its use in teaching.

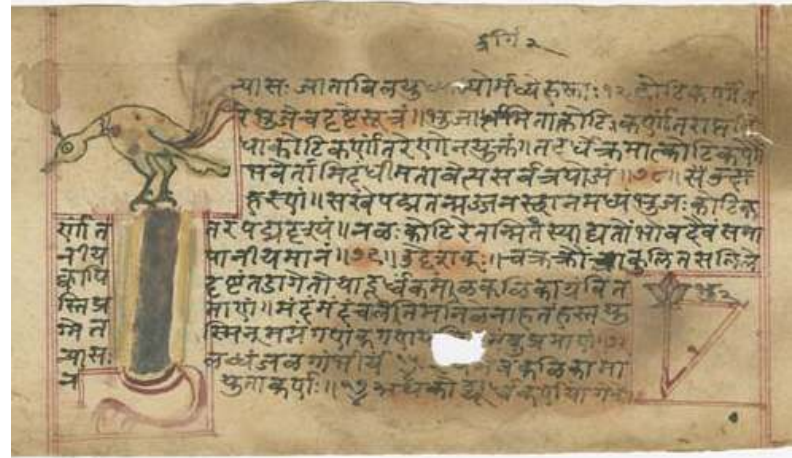
Submissions should be sent electronically to Janet Beery (janet_beery@redlands.edu) or Kathy Clark (kclark@fsu.edu). Articles sent in html, TeX, Word, or pdf formats are welcome, but url addresses for posted articles are preferred. If sending an article, please include illustrations in jpg format, applets, etc. as separate files, and give explicit instructions for both internal and external hyperlinks. If you have an idea for an article, but do not know how to produce applets for it, we suggest you contact an expert on your own campus for help. If that fails, please give us very explicit instructions as to what you want so that we can attempt to help you.

If you would be willing to serve as a referee for articles submitted to *Convergence*, please let one of the editors know what topics and types of articles you would prefer to review.

Founding editors: Victor J. Katz (vkatz@udc.edu), University of the District of Columbia, and Frank Swetz (guru6@myway.com), Pennsylvania State University, Harrisburg

Editors: Janet Beery (janet_beery@redlands.edu), University of Redlands, and Kathy Clark (kclark@fsu.edu), Florida State University

Loci editor: Thomas Leathrum (leathrum@jsu.edu), Jacksonville State University



On this page from a 1650 manuscript copy of the *Lilavati*, Bhaskara II (1114-1185) presents a problem about an encounter between a peacock and a snake. (From “Mathematical Treasures,” *Convergence*, courtesy of Columbia University Library)



On this page from the first known algebra text, *Kitab al-jabr wa l'muqabala*, Muhammad ibn Musa al-Khwarizmi (c. 825) solves a certain type of quadratic equation by completing the square. (From “Mathematical Treasures,” *Convergence*, courtesy of Columbia University Library)

Report on the Centennial History Subcommittee of the MAA's Centennial Committee

Victor J. Katz, Chair (vkatz@udc.edu)

The main goal of the Centennial History Subcommittee is to compile the history of various aspects of the MAA, primarily over the past fifty years (since a history of the first fifty years of the organization has already been written). We will be including in this history a good bit of oral history, namely, interviews with various long-time members of the organization who can tell us “how it really was” thirty or forty years ago. Among the topics for which we have asked people to write essays are:

Project NEXT

SUMMA

SIGMAAs

The Role of Women in the MAA

Student Chapters

History of the MAA Journals

MAA Online and the beginning of electronic services

Changing status of the two-year college community in the MAA

Changes in National Meetings

We are also hoping that each section will either prepare its own history or, if one is already available, revise it if necessary. In addition, we are trying to get together biographies of all the MAA presidents during the past fifty years (or even further back, if possible), biographies that would include their major contributions to the MAA during their time in office. Biographies of the executive directors would also be useful for our history.

We will in the near future secure a section of MAA Online to begin “publishing” this material. But we are also investigating the publication in print of a book containing as much of the material we gather as possible, a book that would be ready by the time of the centennial. In addition, we hope to produce a Centennial poster that members can display in their offices.

The MAA Centennial Celebration will be held at Mathfest 2015 in Washington, D.C.!

Although the actual size of the committee is limited by MAA policy, we welcome the cooperation of any HOMSIGMAA member who would like to contribute to our work. In particular, if anyone would be interested in helping with the writing of an essay on some aspect of the history of the MAA that is not mentioned above, please let me know. (Volunteers to work on biographies of presidents would be especially welcome.)

Cajori Two Project Collects Data on History of U.S. Collegiate Mathematics Education

Walter Meyer, Adelphi University

The Cajori Two Project aims to produce an Excel-based data base of undergraduate curricular change in the 20th century at a selection of 20 or so interesting American institutions, showing snapshots of their curricula at 10 year intervals. The project is named for Florian Cajori, an early president of MAA, who was the first to extensively record American college curricular history for centuries before the 20th. We are working in parallel on a number of different fronts: 1) acquiring catalog photo-copies from the institutions we have chosen (about 75% done); 2) creating the master list of courses we expect to encounter, along with descriptions (about 90% done); 3) determining what information will be recorded and how it will be compressed to facilitate informative browsing (mostly done); 4) writing VBA Excel software to automatically tabulate the information in various ways (just begun); 5) transcribing selected and compressed catalog data to Excel workbooks (not yet begun).

We gratefully acknowledge HOM SIGMAA's financial support for photocopying expenses. We have no other financial support so things move slowly, which explains why you have already read a number of our project reports. We are happy to report that a number of people have provided practical and moral support, including Professor Gil Strang of MIT, numerous library and registrar personnel, and others I have probably forgotten. Finally, we have recently welcomed Professor Larry D'Antonio to the project staff which now consists of Larry, me, Professor Joseph Malkevitch and Professor Jack Winn.

Visit homsigmaa.org today!

Make a Deposit to the National Curve Bank

Shirley Gray, California State University, Los Angeles

The National Curve Bank: A MATH Archive, is now approaching its 100th deposit. The members of HOM SIGMAA should be especially interested in the following:

Original materials: Faculty and students will enjoy seeing on-line samples of the Burndy Collection at the Huntington Library. If one clicks on the magnifier, the viewer can actually read Einstein's handwriting, see Galileo's moon illustration, and enjoy Pascal's own triangle.

< <http://curvebank.calstatela.edu/visit/visit.htm> >

Catenary: To underscore the historical importance of the catenary, figures submitted by Gottfried Leibniz and Christiaan Huygens to Jacob Bernoulli for publication in the widely acclaimed *Acta Eruditorum* (1691), were selected. Deposit #84 won the 2009 Renie Award for best animation of the previous year.

< <http://curvebank.calstatela.edu/catenary/catenary.htm> >

Multiculturalism: Deposit #85 invites a comparison of *The Nine Chapters* from China with approaches found across Western civilization.

< <http://curvebank.calstatela.edu/circle2/circle2.htm> >

A novel from Japan, *The Housekeeper and the Professor*, by Yoko Ogawa, joins the number theory of Ruth-Aaron Pairs as a delightful "read."

< <http://curvebank.calstatela.edu/ruthaaron/ruthaaron.htm> >

HOM-SIGMAA colleagues and other faculty are encouraged to showcase their students' projects involving animation or interaction, two features not available on the printed page. Both are of increasing popularity as valuable supplements to chalkboard and presentations in classes. Students interested in both mathematics and computer science have created wonderful animations that invite extension into topics of historical interest. Send your ideas to Shirley Gray at sgray@calstatela.edu.

Mathfest participants enjoyed the video (deposit #94) by Mike Krebs, The Definition of the Limit: A Streaming Video. Shown in the HOM SIGMAA and POM SIGMAA joint contributed paper session, this presentation left the audience singing.

Visit the HOM SIGMAA Website! Join Our Electronic Mailing List!

Andrew Perry, Electronic Resources Coordinator

Our website (<http://homsigmaa.org>) includes HOM SIGMAA news, announcements of upcoming conferences, links to other history of mathematics pages, and other resources. Please check the HOM SIGMAA website for news throughout the year. Suggested additions to the website (for example, conference information, links or photos) are always welcome at perryand@yahoo.com.

To subscribe to the HOM SIGMAA list, send an email to perryand@yahoo.com with the subject line: subscribe HOMSIGMAA-list ADDRESS, with your own e-mail address in place of the word ADDRESS. See <http://homsigmaa.org/list> for instructions for subscribing to the list in digest form or for unsubscribing from the list.

Please contact Andrew at perryand@yahoo.com if you have any problems subscribing, or with any other questions or comments on HOM SIGMAA electronic resources.

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Email: curtin@nku.edu

Secretary/Treasurer: Charlotte Simmons, University of Central Oklahoma
Email: cksimmons@uco.edu

Program Coordinator: Amy Shell-Gellasch, Beloit College
Email: shella@beloit.edu

Electronic Resources Coordinator: Andrew Perry, Springfield College
Email: perryand@yahoo.com

Prize Coordinator: Ed Sandifer, Western Connecticut State University
Email: SandiferE@wcsu.edu

Past Chair: David Zitarelli, Temple University
Email: zit@temple.edu