

# HOM SIGMAA News

Volume XI, Number 1

January 2021

## Greetings from the HOM SIGMAA Chair

### *Dates to Remember:*

July 12 – 14, 2021  
*People, Places, Practices*, University of St. Andrews, Scotland

August 4 – 7, 2021  
*MathFest* in Sacramento, CA

### *Inside this issue:*

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Well, 2020 continued to be crazy, but in a very repetitive way. Still locked down, still teaching online, still learning to cook, etc. I was lucky enough to have one class in the fall face-2-face, but it started online and ended online. As we move into 2021 not much has changed since my last newsletter. Keep an eye out for updates on summer meetings.

At this point it is probably a tossup as to whether they will be live or virtual.

The upside of all this is the shift to virtual talks that provide access to more people. HOM SIGMAA is going to try our hand at hosting a recurring virtual speaker series on the history of mathematics and its uses in teaching. As planning for this moves forward we will post details on our MAA Connect site. If you have ideas for how we can connect virtually please let myself or Jemma Lorent know.

Speaking of connecting, but in person, January 2021 was the last JMM in which the MAA is a co-host. Moving forward our annual meeting will take place at MathFest. We may still have a guest speaker at JMM (the AMS has been gracious enough to allow all SIGMAAs meeting space.) But we will not be able to have our reception there. So if you want HOM SIGMAA with snacks and drinks, you will have to come to MathFest.

Stay warm, stay healthy, stay sane. Focus on all the new skills you are learning, and the books and puzzles you are catching up on!

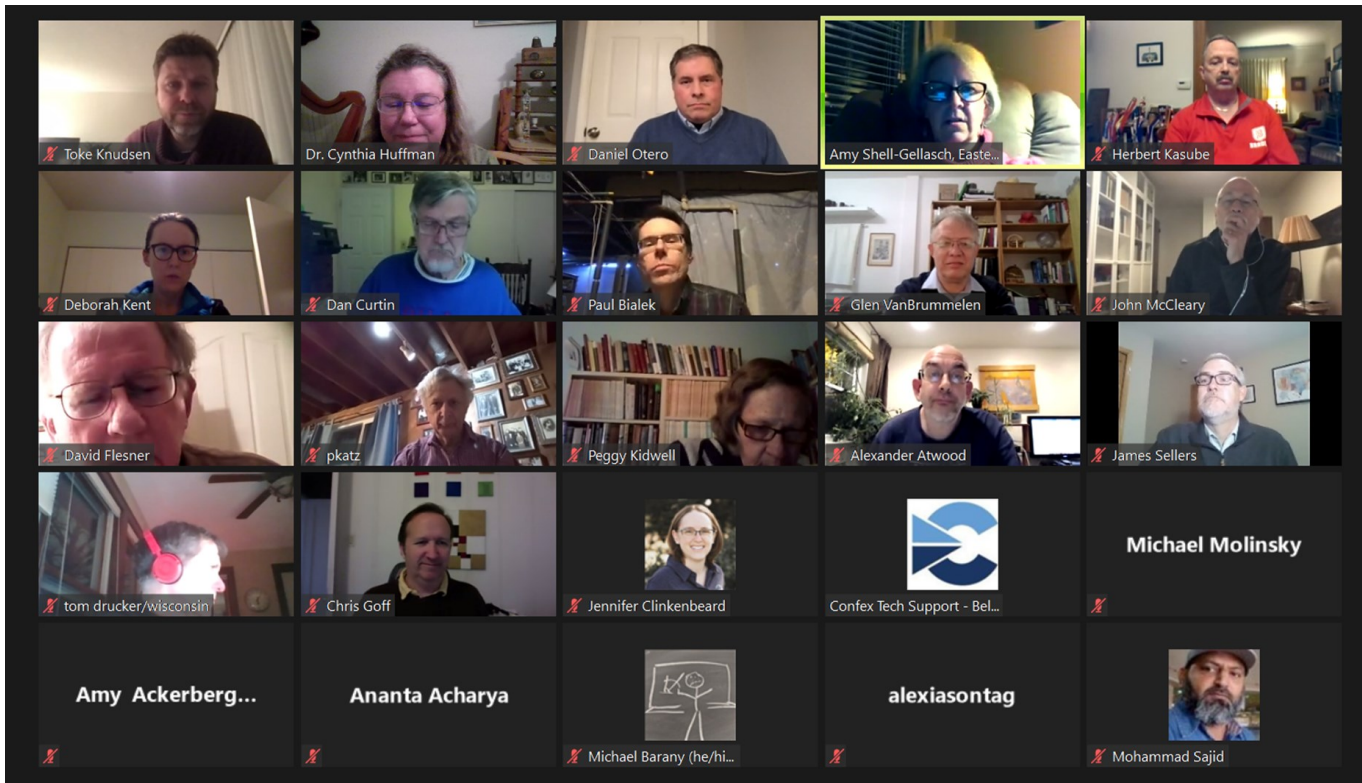
Till we meet again.

Amy Shell-Gellasch  
Chair, HOM SIGMAA



# Virtual HOM SIGMAA Event at 2021 JMM a Success

At the first ever virtual Joint Mathematics Meetings in January of 2021, more than 70 people participated in the HOM SIGMAA annual event, which included a business meeting, led by HOM SIGMAA chair Amy Shell-Gellasch, and an interesting invited address by Daniel Otero, HOM SIGMAA past chair, on *Jakob Bernoulli's "Treatise on Infinite Series"*. Two screenshots from the event can be found below:



Jakob Bernoulli's *Treatise on Infinite Series*

Daniel E. Otero

Introduction

Tractatus

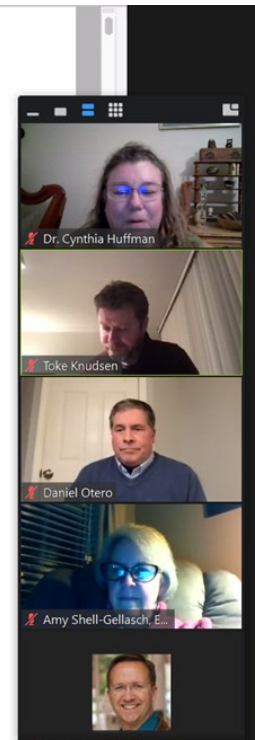
- Preface
- Bernoulli's Inequality
- Decomposition of series
- Harmonic series
- The Basel problem
- Applications
- Closing poem

## Jakob Bernoulli's *Treatise on Infinite Series*

Daniel E. Otero

Xavier University

Joint Mathematics Meetings  
 HOM SIGMAA Invited Address  
 January 6, 2021



## Thanks to Toke Knudsen for his service!

HOM SIGMAA is grateful to Toke Knudsen for his service as HOM SIGMAA Program Coordinator the last six years. In addition to being an active contributing member of the HOM SIGMAA Executive Committee, Toke has been responsible for planning and scheduling HOM SIGMAA events at MathFest and JMM. Thanks for your great work, Toke!!!



### 2021 HOM SIGMAA Executive Committee

**Chair:** Amy Shell-Gellasch, Eastern Michigan University

Email: [ashellge@emich.edu](mailto:ashellge@emich.edu)

**Secretary/Treasurer:** Cynthia Huffman, Pittsburg State University

Email: [cjhuffman@pittstate.edu](mailto:cjhuffman@pittstate.edu)

**Program Coordinator:** Jemma Lorenat, Pitzer College

Email: [jemma\\_lorenat@pitzer.edu](mailto:jemma_lorenat@pitzer.edu)

**Electronic Resources Coordinator:** Andrew Perry, Springfield College

Email: [aperry@springfieldcollege.edu](mailto:aperry@springfieldcollege.edu)

**Prize Coordinator:** Amy Shell-Gellasch, Eastern Michigan University

Email: [ashellge@emich.edu](mailto:ashellge@emich.edu)

**Past Chair:** Daniel Otero, Xavier University

Email: [otero@xavier.edu](mailto:otero@xavier.edu)

### Save these dates for future MAA meetings!

MathFest 2021	Sacramento, CA	August 4-7
MathFest 2022	Washington, DC	August 3-6
MathFest 2023	Tampa, FL	August 2-5
MathFest 2024	Indianapolis, IN	August 7-10

### Convergence Calendar

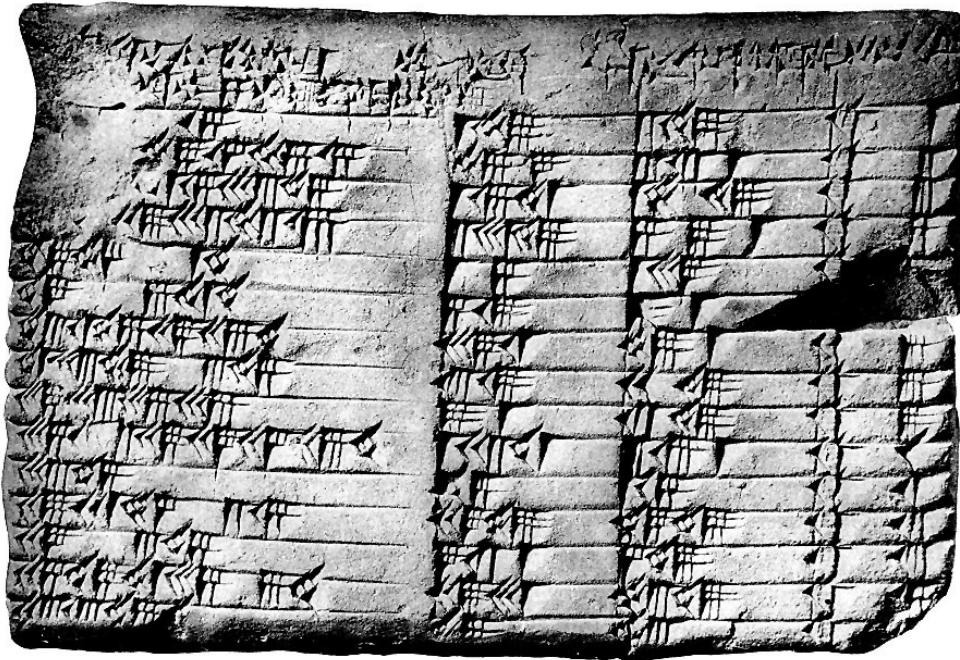
Visit <https://www.maa.org/press/periodicals/convergence/convergence-calendar> for a list of events and meetings around the world which relate to the History of Mathematics.

### Small grants for the history of mathematics classroom are available

HOM members who need some help to purchase items for use in the teaching of the history of mathematics are encouraged to apply for a small grant. Information on how to apply can be found on our website <https://homsigmaa.net/> and at the end of this newsletter.



- [Topology from Analysis: A Mini-Primary Source Project for Topology Students](#) (by Nick Scoville)
- [Babylonian Numeration: A Mini-Primary Source Project for Pre-service Teachers and Other Students](#) (by Dominic Klyve)



Above: Plimpton 322 figures in classroom activities by Antonella Perucca and Deborah Stranen and by Dominic Klyve.

See all of these articles and more at *MAA Convergence*:

<http://www.maa.org/press/periodicals/convergence>.

**Interested in contributing? We'd love to hear from you (at [convergence@maa.org](mailto:convergence@maa.org))!** *Convergence* publishes expository articles on the history of topics in the grades 8–16 mathematics curriculum; translations of primary sources; classroom activities, projects, or modules for using history to teach mathematics; and classroom testimonials after applications of such activities, projects, or modules. Additionally, we welcome submissions related to the following *Convergence* features:

- “[Problems from Another Time](#),” highlighting historical problems.
- “[On This Day](#),” a listing of three or four historic mathematical events that happened on any given date.
- “Today's Quotation,” a quotation about mathematics from a historical figure selected from a [searchable database of quotations](#).
- “[Conference Calendar](#),” an up-to-date guide to conferences and events around the world that feature or include the history of mathematics and its use in teaching.

We also continue to grow and improve the collection of Mathematical Treasures, images of historical mathematical texts or objects; for instance, in 2020 HOM SIGMAA's Cynthia Huffman added five volumes to the subset of Treasures from the Linda Hall Library. See the full index at <https://www.maa.org/press/periodicals/convergence/index-to-mathematical-treasures> to identify gaps in the

collection or descriptions that might be elaborated upon. For more details on *Convergence's* submission and refereeing process, see our Guidelines for Authors at <https://www.maa.org/press/periodicals/convergence/guidelines-for-convergence-authors>.

See all of these articles and more at *MAA Convergence*:

<http://www.maa.org/press/periodicals/convergence>.

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## Visit the HOM SIGMAA website today!!!

The HOM SIGMAA website (<https://homsigmaa.net/>) includes HOM SIGMAA news, announcements of upcoming conferences, links to other history of mathematics pages, and other resources. Suggested additions to the website (for example, conference information, links, or photos) are always welcome at [aperry@springfieldcollege.edu](mailto:aperry@springfieldcollege.edu).

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## Welcome to recently elected HOM SIGMAA Program Coordinator Jemma Lorenat!



It is with great pleasure that HOM SIGMAA welcomes Jemma Lorenat to the role of Program Coordinator. 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 JMM and MathFest with HOM SIGMAA Program Coordinator Jemma Lorenat at [jemma\\_lorenat@pitzer.edu](mailto:jemma_lorenat@pitzer.edu). Also, please contact her if you are willing to organize or co-organize such an event, or are interested in helping out in any way, big or small, with HOM SIGMAA programs. All suggestions are welcome!

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## Notes of the Canadian Mathematical Society are Available

Since 2014, members of the Canadian Society for History and Philosophy of Mathematics have been publishing brief pieces on various aspects of the history and philosophy of mathematics that are accessible to a general audience of mathematicians in *Notes of the Canadian Mathematical Society*. Currently, there are 39 of these *Notes*. *Notes* is freely available at [notes.math.ca/](http://notes.math.ca/); Mike Molinsky also maintains a list of the columns on the CSHPM website, [www.cshpm.org/archives/cmsnotescolumn.php](http://www.cshpm.org/archives/cmsnotescolumn.php).

A feature of the HOM SIGMAA Newsletter is a review of a museum or library with an exhibit or collection related to the History of Mathematics. If you would like to submit an article for HOM on Display, please send it to Cynthia Huffman at [cjhuffman@pittstate.edu](mailto:cjhuffman@pittstate.edu).

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## The New Euler Archive

adapted from the article *Collecting Works – A History of the Euler Archive*, by Erik R. Tou (University of Washington, Tacoma), Chris Goff (University of the Pacific), and Michele Gibney (University of the Pacific), to appear in the inaugural issue of *Euleriana*

Created in 2003 by Dominic Klyve and Lee Stemkoski, then graduate students at Dartmouth College, the Euler Archive is an online repository of Euler's works. It has grown to contain scanned PDFs of 97% of Euler's works and English translations of roughly 25% of Euler's works. In addition, there are a significant number of translations into other modern languages, including 72 works translated into German.

Originally hosted by Dartmouth College (2003–2011) and then the MAA (2011–2018), the Euler Archive is now hosted (2018–present) at Pacific's Scholarly Commons repository:

<https://scholarlycommons.pacific.edu/euler/>

The current directors are Erik Tou (University of Washington, Tacoma) and Christopher Goff (University of the Pacific).

Euler Archive enthusiasts may notice that the site now has more content than it did before, and in some cases better scans of the originals have been added as well. In addition, an effort is being made to collect open source originals and translations from other reputable websites and post them on the Archive. Many gaps in the metadata have been filled, and original publication data has been made more consistent.

In addition to adding new content, the Archive's existing content has been reorganized in a way that should make research easier for scholars. Original titles have almost all been translated into English. The multiple historical efforts to catalog Euler's work (by Fuss, Eneström, and the Opera Omnia series) are all represented in the metadata. In addition, many articles have brief summaries posted. While the Archive's default ordering is by Eneström number, one can also search by date written or by the journals in which Euler published his works.

The new Euler Archive is located at <https://scholarlycommons.pacific.edu/euler/>. While the site is hosted by University of the Pacific Libraries and therefore has elements of that branding, the site was customized to be familiar with the MAA version of the landing page with a banner image pulled from it plus introductory text. The sitemap layout was also organized to follow the previous iteration to make the transition as simple as possible for long-time Euler Archive fans.

Each record page in the Euler Archive has customized metadata based on what was included on the MAA pages as well as some new information added during the clean-up and migration process. The original, full-text file is available via a large, blue Download button on each page. If there are translations, they appear as supplemental content both directly below the Download button as well as at the bottom of the page under all the metadata. For records where Euler Archive staff have not yet obtained a high quality scan of the original but one exists elsewhere on the Internet, the record will link out to that version.

(continuation of HOM on Display—The New Euler Archive)

The screenshot shows the Euler Archive landing page on the Scholarly Commons platform. The header includes the University of the Pacific logo and the text 'Scholarly Commons'. A navigation menu contains links for HOME, ABOUT, FAQ, and MY ACCOUNT. The left sidebar has sections for SEARCH, BROWSE, AUTHOR CORNER, and LINKS. The main content area features a banner for 'The Euler Archive' with a portrait of Leonhard Euler and the text 'A digital library dedicated to the work and life of Leonhard Euler'. Below the banner is a world map showing download locations, a statistics table, and descriptive text about the archive's content and management.

**SEARCH**

Enter search terms:

In this collect:

Advanced Search

Notify me via email or [RSS](#)

**BROWSE**

Collections

Disciplines

Authors

**AUTHOR CORNER**

Author FAQ

**LINKS**

Euleriana, open access eJournal

SCHOLARLY COMMONS ISSN:  
2 5 7 2 - 6 8 0 3

**The Euler Archive**  
A digital library dedicated to the work and life of Leonhard Euler

**EULER ARCHIVE**

Reader from: Siegen, Nordrhein-westfalen, Germany

Vollständige Anleitung zur Algebra, Zwoyler 1761  
Leonhard Euler

Recent Downloads  
2 of 36  
in the past day

857 Total Papers	31,573 Total Downloads	27,365 Downloads in the past year
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The Euler Archive is an online resource for Leonhard Euler's original works and modern Euler scholarship. This dynamic library and database provides summaries of and access to digitized versions of original publications, and references to available translations and current research.

The Archive is centered around individual web pages corresponding to (and containing information about) each work written by Leonhard Euler (more than 850 of them). Most pages also contain copies of the original publications of these works. You can access these pages by using the navigation links on the left sidebar. In addition, the Archive contains historical information concerning the life and times of Leonhard Euler, as well as a significant percentage of Euler's correspondence.

The Euler Archive was created by Dominic Klyve (Central Washington University) and Lee Stemkoski (Adelphi University). It is currently managed by Erik You (University of Washington, Tacoma) and Chris Goff (University of the Pacific). The site was previously hosted by the Mathematical Association of America 2011-2018.

[Follow](#)

**Browse the Euler Archive Collections:**

[Euler Archive - All Works by Eneström Number](#)

[Euler Archive - Works by Date Written](#)

[Euler Archive - Works by Decade](#)

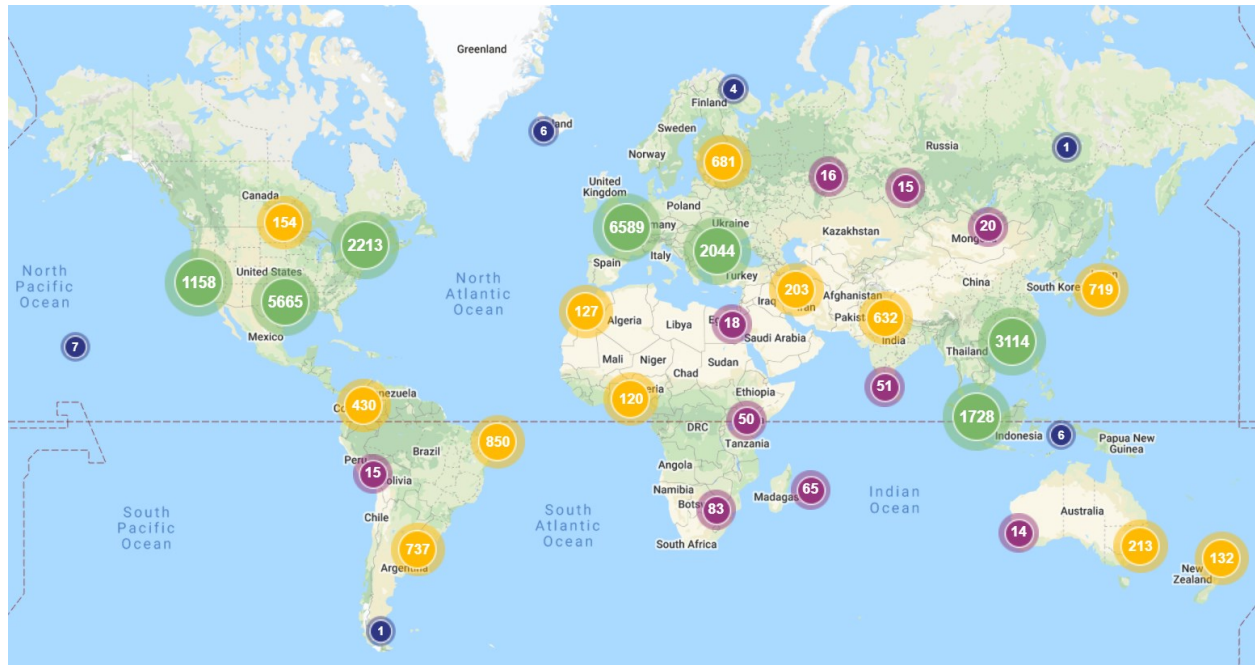
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Privacy | Copyright

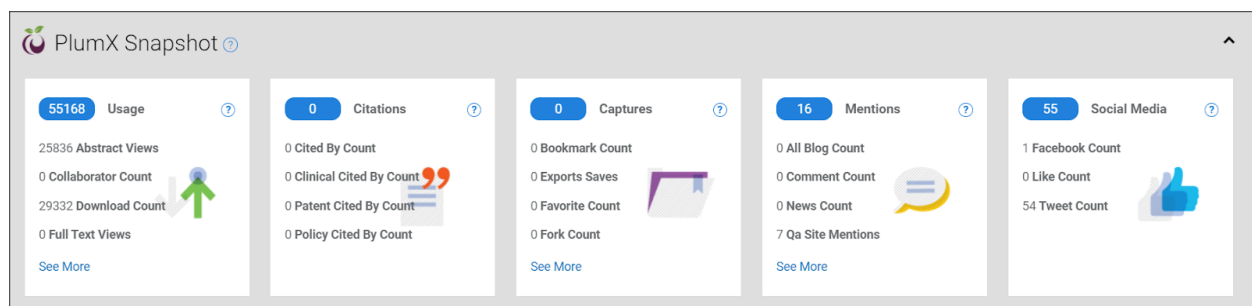
Euler Archive Landing Page - <https://scholarlycommons.pacific.edu/euler/>

The administrators on the Euler Archive have access to a variety of usage statistics. They receive a monthly overview of download usage within the previous 30 days via email. The email also includes a hyperlink to an administrator Dashboard where they can see an extensive amount of additional information. This includes where in the world the papers are being downloaded - down to the granular level of institution/organization. There are various data visualizations with maps, institutions, countries, referrers, downloads over time, etc.



*Euler Archive Readership Distribution Map (12/14/2020)*

An additional, and recently added feature in Scholarly Commons, is an embedded PlumX Snapshot. PlumX metrics are altmetrics - data captured about a record beyond the typical metrics of download/usage counts and citations. These include things such as Social Media posts, Mentions (blogs, news media, references) and Captures (bookmarked, favorites, exports). Details like this can assist the administrators in demonstrating the interest level in the Archive. Alongside the downloads and citations, it also is very useful for staff to gauge what Euler papers and topics are trending and what might be additional avenues to pursue in added content and future special issues of *Euleriana*.



*Euler Archive PlumX Snapshot (12/14/2020)*

As an added level of discovery, all of the Euler Archive is harvested into the Elsevier Digital Commons Network Mathematics Commons. The Mathematics Commons (<http://network.bepress.com/physical-sciences-and-mathematics/mathematics/>) is an aggregated repository of over 19,000 full-text, open access files within the subject matter of math. Having the works harvested there can increase Search Engine Optimization on the Euler Archive and increase traffic to the main repository.

(continuation of HOM on Display—The New Euler Archive)

The screenshot shows the PlumX interface for the article "Solutio problematis ad geometriam situs pertinentis". The article title is at the top, along with citation data: "Citation Data: Commentarii academiae scientiarum Petropolitanae, Page: 128" and "Publication Year: 1741". On the right, there are three columns of metrics: Usage (4,117), Mentions (1), and Social Media (34). Below these are navigation options for Counts, 1 Year, and 3 Year. The left sidebar contains a navigation menu with "Home", "Overview", "Highlights", "Wikipedia References", and "Twitter". The main content area is divided into three sections: "Metrics Details", "Most Recent Tweet", and "Article Description".

Metrics Details	
<b>USAGE</b>	<b>4,117</b>
Downloads	2,442
Digital Commons	2,442
Abstract Views	1,675
Digital Commons	1,675
<b>MENTIONS</b>	<b>1</b>
References	1
Wikipedia	1
<b>SOCIAL MEDIA</b>	<b>34</b>
Tweets	33
Twitter	33
Shares, Likes & Comments	1
Facebook	1

**Most Recent Tweet**

By LapinNoelVue (@LapinNoelVue)  
Königsberg's 7 bridges  
Solutio problematis ad geometriam situs pertinentis  
By Leonhard Euler, Published on 01/01/41  
scholarlycommons.pacific.edu  
8:06 PM · Nov 26, 2020

**Article Description**  
By Leonhard Euler, Published on 01/01/41

**Bibliographic Details**  
**REPOSITORY URL:** <https://scholarlycommons.pacific.edu/euler-works/53>  
**AUTHOR(S):** Euler, Leonhard  
**TAG(S):** Mathematics

**Provide Feedback**  
Have ideas for a new metric? Would you like to see something else here? [Let us know](#)

*PlumX Snapshot of most popular Euler Archive paper -  
“[Solutio problematis ad geometriam situs pertinentis](#)” (12/14/2020)*

Because of its open-source nature, the Euler Archive encourages participation from scholars like you! Those who can read Latin can help out by offering to translate the titles of Euler’s papers from Latin to English. Most have been done already, but not all. Similarly, many of Euler’s works lack a brief summary paragraph that can help researchers skim them. Scholars who can translate the languages that Euler published in—Latin, French, and German—can provide complete translations into English. Ultimately, these translations may be publishable in journals such as *Euleriana*.

While much progress has been made in making the Euler Archive a robust source for primary material on Leonhard Euler, there is still room for your participation. With collective effort, perhaps we can translate all of Euler’s works by 2033, the 250th anniversary of his death. In the meantime, please visit the Archive and have a look around!



We are proud to announce a new peer-reviewed journal, *Euleriana*, dedicated to the life and work of Leonhard Euler, with secondary foci on Euler’s legacy and the wider world of scholarly work in the 18th century. (See journal’s [Aims and Scope](#) for more information.) The journal aims to be a leader in the expanding world of Euler scholarship.

We’d love to hear from you! *Euleriana* is now accepting submissions, including translations, historical and archival notes, and book reviews. Potential authors are encouraged to contact the editors (Erik R. Tou, [etou@uw.edu](mailto:etou@uw.edu), and Christopher Goff, [cgoff@pacific.edu](mailto:cgoff@pacific.edu)) to inquire about papers before submission.

## CSHPM Online Colloquium

The Canadian Society for History and Philosophy of Mathematics (<http://www.cshpm.org/>) invites members as well as the broader scholarly community to the next talk in our online colloquium series via Zoom. Participants are encouraged to become members (for as little as \$10-\$30/year, depending on your employment status), but it is not required. Non-members can get regular updates on our activities by liking us on Facebook (<https://www.facebook.com/cshpmschpm>). The talk will last 30 minutes, followed by a Q&A.

DORA MUSIELAK, Research Professor at the University of Texas at Arlington, will deliver the tenth talk of the CSHPM Online Colloquium series.

DATE: January 15th

TIME: UTC 19:00; Vancouver 11:00; Edmonton 12:00; Regina/Winnipeg 13:00; Montreal/Toronto 14:00; Halifax 15:00; St. John's 15:30

TITLE: Prime Mystery: Sophie Germain and Fermat's Last Theorem

ABSTRACT: Euler wrote to Goldbach on 4 August 1753 that he had proved Fermat's (last) theorem in the case  $n=3$ , observing that the proof seemed very different from the proof for the case  $n=4$ , and that a proof of the general case still seemed remote. In 1804, Sophie Germain wrote to Gauss, stating that she could "prove that  $x^n+y^n=z^n$  is impossible if  $n=p-1$ , where  $p$  is a prime of form  $8k+7$ ." Gauss was silent in the matter. However, Legendre paid attention to Germain's unique approach to prove Fermat's theorem, distinctively different from Euler's. Twenty years later, Legendre added Germain's theorem to his indeterminate analysis particularly focused on Fermat's theorem, in a memoir which became the second supplement to Legendre's *\*Théorie des Nombres\**. In this talk, I will present the history and the enigmas that surround this crucial aspect of Sophie Germain's contribution to mathematics.

For the link to join by Zoom, visit

<http://www.cshpm.org/meeting/CSHPMOnlineColloquium.php>



## Congratulations to Judith Grabiner!

The Albert Leon Whiteman Memorial Prize was established in 1998 using funds donated by Mrs. Sally Whiteman in memory of her husband, the late Albert Leon Whiteman. Mrs. Whiteman requested that the prize be established for notable exposition on the history of mathematics. Ideas expressed and new understandings embodied in the exposition awarded the Whiteman Prize will be expected to reflect exceptional mathematical scholarship. The prize is awarded every three years at the Joint Mathematics Meetings.

The 2021 Albert Leon Whiteman Memorial Prize is awarded to Judith Grabiner for her outstanding contributions to the history of mathematics, in particular her works on Cauchy, Lagrange, and MacLaurin; her widely-recognized gift for expository writing; and a distinguished career of teaching, lecturing, and numerous publications promoting a better understanding of mathematics and the significant roles in culture.



MAA invites you to join the online community, MAA Connect. This member benefit is designed for MAA members to connect, communicate, and collaborate with peers. This is a platform to share ideas, ask questions, and network.

You can log in to MAA Connect using your MAA membership username and password. The webpage at <https://connect.maa.org/home> provides more information on getting started and how to use MAA Connect. Use this information to set up your profile, or use the Getting Started instructions as you familiarize yourself with the platform.

If you have any issues logging in, please contact MAA Customer Service at 800-331-1622 or [maaservice@maa.org](mailto:maaservice@maa.org).

## HOM SIGMAA Small Grants

### Guidelines and Procedures

Purpose: The HOM SIGMAA wants to aid its members in their quest to bring the joys of the history or mathematics to their students. These small monetary grants will allow HOM SIGMAA members to purchase items that will aid in learning the history of mathematics. For example, a classroom set of abacus or materials to make an historical model.

#### Guidelines

1. Recipients must be a current member of the HOM SIGMAA
2. The idea is to purchase items, materials to make a historical model, or materials that can be used year after year. (Not supplies that will be used up quickly.)
3. These materials may be used by an individual's colleagues, but belong to the HOM SIGMAA member and not their department.
4. Items or materials must clearly be for the instruction of a historical topic.
5. Grants will be for amounts up to \$100 and considered on a rolling basis (so apply early in the year.)
6. Approval of the grant is at the sole discretion of the HOM SIGMAA executive board.
7. Applications can be made at any time, but may take several weeks to be approved and paid out by the MAA. So plan ahead.
8. Receipts for purchased items is preferable. But if purchase depends on funding, receipts may be required after purchase.
9. Total annual grants dispersed will not exceed \$1000 per year and are subject to HOM SIGMAA funding needs.
10. Preference will always be given to first-time grantees. And the HOM SIGMAA has the right to deny any request if they feel a single member is requesting too often.

#### How to apply

Please send the application form (available on the HOM SIGMAA website) in Word or PDF to the Chair of the HOM SIGMAA via email.

## HOM SIGMAA Classroom Small Grant

Name

Institution

Email

Phone

Address

Funds requested

Item(s) to be purchased

Purpose or use of items

# The History of Mathematics Special Interest Group of the Mathematical Association of America

is pleased to announce its seventeenth annual

## Student Paper Contest in the History of Mathematics

This contest is open to all undergraduate students<sup>π</sup>

Papers will be judged by a panel of specialists for content, originality, and presentation. Typically first and second place winners are chosen.

### Submission Guidelines

- Topics can be drawn from any field of mathematics.
- Papers can address a single person or topic, or be an historical survey of a topic or school of thought.
- Submissions should be approximately 5000 words (approximately 12 double-spaced 12 pt. pages) in length with font that is easy to read.
- Submissions should be in a single PDF file, including a title page with title of paper, the author, school, and complete contact information.
- Papers should include a full citation list.
- Papers should not draw too heavily from web sources.<sup>§</sup>
- Students submitting a paper need not be currently taking a history of mathematics course.
- All papers should be single-authored.
- Eligible papers are those written in the past year and while the author was an undergraduate.

**Submission Deadline: Tuesday, March 31, 2021**

Results will be announced via email  
and on the HOM SIGMAA website in May.

Submissions and questions can be directed to  
Dr. Amy Shell-Gellasch [ashellge@emich.edu](mailto:ashellge@emich.edu)

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<sup>π</sup> Students who have graduated less than a year ago but wrote their paper while still an undergraduate may also participate. Graduate and high school students may also submit for an honorable mention.

<sup>§</sup> Web sources that give access to print material, such as JTSOR, are completely acceptable.