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A Survey of the Math Blogosphere

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Synopsis

This article provides an overview of different types of mathematical blogs currently available. There are over twenty blogs highlighted, ranging from the technical to the recreational, from those sponsored by national mathematical organizations to those run by individuals—including students.

We live in an era dominated by online media. Newspapers and (paper) journals struggle to survive. *The New York Times* with its famous op-ed section has now gone to blogs and “online forums” as their primary format. Kindles and Nooks have replaced hardcovers and paperbacks; Borders is no more. Instagram and Pinterest have taken over actual photographs and nights going through slides or photo albums. MP3s and streaming sites like Pandora, Spotify and (ironically?) 8tracks are more common than CDs, tape decks, and 8 tracks.

Name a topic, and there are plenty of websites to be found discussing only that topic. Got medical questions? Try WebMD. Want to know what recipes involve both peanut butter and Brussels sprouts? Go to allrecipes. Math is now joining these ranks. Perhaps those of us “on the hunt” for student plagiarists know of sites filled with solutions to well-known textbooks, or of general forums to get a quick answer to a given homework problem.

But beyond those more nefarious (or at the very least, moderately unethical) sites, the mathematical blogosphere is alive and well. And just like the case with journals, and magazines, and books, there is something out there for everyone. This is just a sampling of what is out there.¹

¹ EDITOR’S NOTE: This journal has published an overview of mathematical blogs in an

In addition to links to any highlighted blogs, we specifically mention which blogs give additional recommended reading.

Before going through a categorized list of recommended blogs, being a mathematician I feel compelled to define my terms. Namely, what is a blog? A **blog** is a website run by usually one but by no more than five or six individuals consisting of “posts.” The individuals in charge do all editing, and frequently also all writing (with the exception of an occasional guest contributor). Blog posts are slightly more formal than a (personal) journal entry and—unlike essays—always feature a more colloquial and almost conversational style. Comments from readers may be, but do not have to be, allowed; if they are, they are usually filtered or moderated, and with smaller blogs (i.e., those not linked to Facebook or some other social networking outlet) an editor may continue conversations with readers in the comments section.

The Top Five

These five blogs listed below are the classics, and a great place to get started. While a few can be a bit technical, the authors still show personality and write about more than just their mathematics. Consider them this humble author’s personal top five.

1. *What’s New by Terry Tao (2006 Fields Medalist and Professor of Mathematics at UCLA).*

This blog has posts going back to February 2007. The general intended audience is those with a graduate math background; however, there are some less-advanced posts. This is completely run by Tao; he is the sole author, and he does not take suggestions from readers about topics. In Tao’s own words this blog contains updates on his mathematical research, expository articles, discussion of open problems, talks that he has given or attended, general advice on mathematical careers and mathematical writing, information about his books and applets, and various lecture notes.

Last, this site contains “diversions”—links to mathematics-heavy cartoon series (such as abstruse goose and xkcd) and additional mathematics blogs.

<https://terrytao.wordpress.com>

earlier issue; see [1]. This report reflects, among other things, how much the mathematical blogosphere has grown and diversified since 2011.

2. *Quomodocumque* by Jordan Ellenberg (*NY Times Best-selling author and Professor of Mathematics at the University of Wisconsin, Madison*).

This is also controlled by a single author. *Quomodocumque* is not as math-heavy or technical as Tao's. In fact, the tagline is "Math, Madison, food, the Orioles, books, my kids." Indeed, Ellenberg not only has links to his own books but also a list of (mostly non-mathematical) math books read.

<https://quomodocumque.wordpress.com>

QUOMODOCUMQUE

Math, Madison, food, the Orioles, books, my kids.

HOW NOT TO BE WRONG BOOKLIST 2011- ABOUT HOME

AUG 27 2017

1 COMMENT

CHILDREN, CJ, TRAVEL

ROAD TRIP TO TOTALITY

My kids both wanted to see the eclipse and I said "that sounds fun but it's too far" and I kept thinking about it and thinking about it and finally, Saturday night, I looked inward and asked myself is there *really* a reason we can't do this? And the answer was no. Or rather the answer was "it

3. *Gowers's Weblog* by Tim Gowers (*1998 Fields Medalist and Professor of Mathematics at the University of Cambridge*).

With posts going back to September 2007, this is a very math-centered blog. Having said that, math-centered does not necessarily mean "including equations and theorems". Gowers is increasingly outspoken about how math is published, how research is conducted, and how information is disseminated. At the 2016 Joint Mathematics Meetings in Seattle, in fact, he gave a special session talk entitled "How should mathematical knowledge be organized?" So if anything, one could say this blog has a political slant. There are strings of posts on the polymath project (of which Gowers is a huge promoter and supporter) and against current mathematical publishing practices—most notably see his 2016 post titled "[Time for Elsexit?](#)"

Like the previously discussed bloggers, Gowers also has a list of recommendations for further online reading and mathematical "distractions" (which for him include [arxiv vs. snarxiv](#)).

<https://gowers.wordpress.com>

4. *The Accidental Mathematician* by Izabella Laba (Professor of Mathematics at University of British Columbia).

Laba was one of the first bloggers to write heavily about issues surrounding women in mathematics. As recently as October 2016 she wrote an article called “A seminar room of our own” which was part of a series on women in mathematics and the internet.

Her blog contains two lists of recommended sites: “Mathematicians and allied scientists” and “There’s life beyond mathematics” (containing links to Female Science Professor, and Ta-Nehisi Coates).

Unlike the first three recommended blogs, this one is tougher to search. Having said that, Laba has tagged certain publications under the categories of (in order): feminism and women in math, mathematics (general), mathematics (research), history, culture, academic life, research politics and research funding.

<https://ilaba.wordpress.com>

The screenshot shows the WordPress interface for the blog "The Accidental Mathematician". At the top, there's a navigation bar with "My Site" and "Reader" links, and a "Write" button. Below the title, there's a navigation menu with "HOME", "BIO", and "SELECTED POSTS". A large featured image shows a deer standing in a pond. To the left of the main content, there's an "About" section for Izabella Laba, a list of links (Professional website, Wikipedia entry, Preprints on arXiv, Photography page on Google+, Twitter), and a "FEATURED ON Freshly Pressed" badge. Below that is a search bar. The main content area displays a post titled "Gifted while female" by Izabella Laba, dated June 24, 2017. The post text discusses the trope of the math prodigy and mentions the film "Gifted". At the bottom right, there's a "Following" button.

5. *mathbabe* by Cathy O’Neil. (Best-selling author, former academic and D.E. Shaw employee—who then ironically joined the Occupy Wall Street movement).

O’Neil’s blog has had a cult following for a while. After her term at D.E. Shaw (which in turn was after her time in academia where she was trained as a number theorist) she worked at the Columbia School of Journalism. In 2015 she gave an invited address at the Joint Mathematics Meetings in San Antonio on “Making the case for data journalism”. Her more recent posts have been about big data and its (mis)use in society; subcategories of social justice and feminism appear. Also see her 2016 book *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* [3].

Unlike the others mentioned above, this blog does have the occasional guest-post.

<https://mathbabe.org>

Blogs Hosted By Organizations and Entities

AMS-Sponsored blogs

The American Mathematical Society has many blogs that it hosts on its webpage. The entire list can be found here:

<http://blogs.ams.org/>

Most of these blogs are non-technical. They instead are about mathematics in society, and the society of mathematics. Highlights include:

1. *Blog on Math Blogs*. Based on number of subscribers, this is the most popular of the AMS blogs—and one which is quite relevant to this article. The editors and primary contributors are Anna Haensch, Evelyn Lamb and Brie Finegold. All three of these women have extensive background in mathematics reporting and all were AMS-AAAS Mass Media Fellows: Haensch reported for NPR, while Lamb and Finegold wrote for Scientific American. Blog on Math Blogs updates approximately every 1-2 weeks.

<http://blogs.ams.org/blogonmathblogs/>

2. *PhD+ ϵ* . This is geared towards young-career mathematicians. Until she got tenure (thereby deciding she was no longer + ϵ) the sole author was Adriana Salerno of Bates College. Now that Salerno has stepped down, there are two coauthors/co-editors: Beth Malmskog of Villanova University and Sara Malec of Hood College. Regular topics include work-life balance, service and outreach, tenure, and opportunities for faculty. The blog is updated at least once every two weeks.

<http://blogs.ams.org/phdplus/>

3. *Inclusion/exclusion Principle*. This is one of the newer AMS blogs and features five authors/editors: Adriana Salerno (previously mentioned), Piper Harron (University of Hawaii), Brian Katz (Augustana College), Luis Leyva (Vanderbilt University), and Edray Goins (as of Fall 2017 of Pomona College). The purpose of this blog is to increase awareness of issues surrounding the inclusion (or current lack thereof) of marginalized and underrepresented groups in mathematics.

Despite only being live since February of 2017, this is a very “hot” blog and in many ways has had the largest impact. One of Harron’s postings from May 2017 was picked up by right-wing media outlets including Breitbart, which garnered some unanticipated national attention.

<http://blogs.ams.org/inclusionexclusion/>

MAA-Sponsored Blogs

The MAA also currently sponsors multiple blogs. The entire list can be found here:

<http://www.maa.org/community/maa-blogs>

Again, we highlight three blogs in this category:

1. *Devlin’s Angle* by Keith Devlin. Devlin, of course, is a well-known mathematics expositor, and *Devlin’s Angle* perhaps is the jewel in the crown of the MAA blogs. The site has been up and running since 2011 (though in Devlin’s own words this blog started as a column in 1996) and there is one post per month. The topics are varied. Some posts cover mathematics (in a non-technical way); others, pedagogy and history.

<http://devlinsangle.blogspot.com>

2. *Card Colm* by Colm Mulcahy. This blog is exactly what it sounds like: a blog centering around cards, card tricks, and the math behind card tricks. As Mulcahy, a professor of mathematics at Spelman College in Atlanta, puts it, this blog is “very much inspired by the extensive writings of Martin Gardner on the subject”. For much of the blog’s existence, posts have been bimonthly.

<http://cardcolm-maa.blogspot.com>

3. *Launchings* by David Bressoud. This is another monthly blog, centering on issues in undergraduate mathematics education. In particular, quite a few articles appear on calculus curriculum: placement exams, women in calculus classes, active learning in the calculus classroom, and additional related topics. Unlike many other blogs, these posts seem more like articles and always include references for additional reading.

<http://launchings.blogspot.com/>

Non-AMS/MAA Organizations

In this category I will highlight only one blog: *Roots of Unity* by Evelyn Lamb. This blog is hosted by Scientific American. Lamb has been mentioned before, but she has been writing approximately one mathematics article every two weeks for Scientific American for years [this blog is predominantly math; however, on the main page you will also see the occasional post—not by Lamb—on physics or medicine]. Her style is very casual, and her articles are thought provoking and definitely something that would make a “non-mathematician” learn to appreciate mathematics.

<https://blogs.scientificamerican.com/roots-of-unity/>

Roots of Unity

Mathematics: learning it, doing it, celebrating it.

Student-run blogs

A nontrivial number of math blogs are created by graduate students preparing for their oral/qualifying exams. They will write expository articles or detailed proofs of “key” results in their area, and hope that other mathematicians would read for general feedback, clarity, proof-reading, etc. Ironically, it’s those with the fewest degrees who tend to write the most technical posts. Here are three student-started and student-run blogs:

1. *Annoying Precision* by Qiaochu Yuan. Yuan is a PhD candidate at UC Berkeley who has a greater online presence than most mathematicians—including the others mentioned in this article. He is one of the top overall users by reputation on both [mathoverflow](#) and [Mathematics Stack Exchange](#), extensively wrote on [the message boards of Art of Problem Solving](#), and has been mentioned in talks by Tim Gowers on the changing nature (in particular, the increase in the e-culture) of mathematics.

Yuan has a list of recommended math books, mostly in algebra/number theory and geometry/topology. He also has a recommended list of blogs. [Annoying Precision](#) has been live since 2009 (when Yuan was still an undergraduate).

<https://qchu.wordpress.com>

2. *Rigorous Trivialities* by Charles Siegel (primary author), Jim Stankewicz, and Matt Deland. The intersection of all of these authors is “algebra”, and between the three of them they have extensive background in algebraic geometry. While lately posts have been rare—perhaps in part because all three have now graduated—Siegel has been the dominant contributor. Of particular note is a series called “AG [algebraic geometry] from the beginning”—a collection of blog posts on varieties, elliptic curves, Riemann-Roch, commutative algebra, etc., needed to understand the basics of algebraic geometry.

<https://rigtriv.wordpress.com>

3. *Euler, Erdos* by Jean Pierre Mutanguha. Mutanguha is a current Ph.D. candidate at the University of Arkansas and in his own words he is working for a niche market: “The blog will be a collection of interesting

things I discovered outside the classroom. It is also a response to the fact that it is hard to find math blogs aimed at undergraduates. Most blogs either discuss graduate level topics or [are] written for the lay person.” At least Mutanhuga lives up his own standards: this blog really does seem to be geared more towards undergraduates than to any other subsection of readers.

<http://euler.genepeer.com>

Math Blogs That Boldly Challenge Traditional Beliefs

For lack of a better term, these are the “shock jocks”. The people who take no prisoners, and say exactly what’s on their mind. Sometimes you agree with them. Sometimes you do not. But regardless they will make you think.

1. *The Liberated Mathematician*. This is the blog of Piper Harron, visiting assistant professor at the University of Hawaii. Piper started making waves with [her unconventional Ph.D. thesis](#), which was highlighted on other mathematical blogs (including the previously-mentioned [mathbabe](#) and in outlets such as Radiolab and Scientific American. This blog, in some sense, has come out of her thesis. While posts are not regularly scheduled (she does also write for the [Inclusion/Exclusion Principle](#)), when they arrive they are usually quite current and controversial. Frequently-discussed topics include social justice and minorities in mathematics.

<http://www.theliberatedmathematician.com/blog/>

2. *Dr. Z’s opinions* by Doron Zeilberger. In speaking with colleagues about this article, this choice was the most controversial (which perhaps makes it well-suited for this category). It is not a typical blog, to the point where many actually do not want to call it a blog. For instance, it’s a subpage of Zeilberger’s professional Rutgers page, and is in basic html. Moreover, he makes a point of calling his posts “opinions” (and they do read more like traditional op-eds than a blog post). Posts go back to the 1990s. To call Zeilberger blunt would be an understatement, and one could see him as the blogging version of a honey-badger. A relatively tame opinion title is [#107: Any Faculty Member who Votes Against Granting Tenure to a Colleague Deserves to be Shot](#).

<http://www.math.rutgers.edu/~zeilberg/OPINIONS.html>

Math Blogs for the Non-mathematician (though mathematicians should read them too)

Here are some of my favorites in this category:

1. *Math with bad drawings* by Ben Orlin. Orlin is a maths teacher in Birmingham, England, who in just four years of blogging has cultivated a mailing list of over 11,000. This blog features everything from sneaky proofs, to [how to wish a mathematician Happy Valentine's Day](#), to [“Is Algebra Just a Series of Footnotes to the Distributive Property?”](#). It's very entertaining and frequently humorous (for instance, [when Orlin compares the Lemony Snicket children to mathematical specialties](#)).

<https://mathwithbaddrawings.com>

2. *Grandma got STEM*. There are many contributors to this blog (to the point where, by afore-mentioned definition, it may not be a real blog); however, the founder and primary editor is Rachel Levy of Harvey Mudd College.² In Levy's own words: "I would like to counter

² EDITOR'S NOTE: This journal has published an announcement about this project in an earlier issue. See [2].

the implication that grannies (gender + maternity + age) might not easily pick up on technical/theoretical ideas. As a start, I'm planning public awareness/art projects using grandmothers' pictures + names + connections to STEM." Naturally with "STEM" in the title, this blog encompasses more than just mathematics. Still, it gives a very human face to science that is not regularly emphasized elsewhere. Many math-y grandmas also show up; see <https://ggstem.wordpress.com/?s=math>.

<https://ggstem.wordpress.com>

3. $\infty + 1$ by James Dilts. Dilts is a recent Oregon Ph.D. (now at the University of California, San Diego) concentrating in mathematical physics. This is a blog for the lay-person on advanced topics such as the theory of relativity, geodesics, and most recently a couple posts on the famous question: "Can You Hear the Shape of a Drum?", see <https://infinityplusonemath.wordpress.com/2017/06/03/can-you-hear-the-shape-of-a-drum-part-1/> for the first post. There are also multiple mathematical and stick-figure-based images throughout his posts, all drawn by his wife. $\infty + 1$ features weekly updates.

<https://infinityplusonemath.wordpress.com>

4. *A Neighborhood of Infinity* by Dan Piponi. Piponi is an absolutely fascinating human being. He has a Ph.D. in mathematics from King's College London. He then worked in the movie industry, winning three

Academy Awards for technical achievement (in visual effects). Now he is a scientist at Google. Throughout all this, he has maintained a math / computer-science blog, going all the way back to 2005. Many of his posts include code and discuss as much (if not more) computer science as mathematics; however, it's still an intriguing read at the very least for anyone interested in mathematics.

<http://blog.sigfpe.com>

5. *The Intrepid Mathematician* by Anthony Bonato. Bonato is a professor at Ryerson University in Toronto. His is a very enjoyable blog; there are threads on interviews with mathematicians (including previously mentioned bloggers like Jordan Ellenberg). There are updates that perhaps not everyone knows about (for example, before the vote took place, Bonato wrote about Fields Medalist Cedric Villani's run for political office). There are also more general, humanistic discussions of mathematicians, like posts on the lives of gay mathematicians. The blog is updated weekly.

<https://anthonybonato.com>

My Site Reader Write

HOME MATHEMATICS INTERVIEWS & CURRENT EVENTS POP CULTURE MISCELLANEOUS ABOUT ME

THE INTREPID MATHEMATICIAN

Reading, writing and arithmetic.

The P vs NP problem

August 30, 2017
abonato99
Leave a comment

Checking is easier than finding? Finding a solution to a problem should be harder than checking that a solution is correct. That seems obvious if you've ever solved a sudoku puzzle, or solved a Rubik's cube, or played a game of chess. But that statement, however intuitive looking, leads us directly to one of the... [Read More](#)

RECENT POSTS

The P vs NP problem

So you want to be a mathematician?

Flash Blog: GRAScan, Book, AIMS

Chasing robbers on donuts

The Mathematics Spring

BLOG STATS

SEARCH ...

FOLLOW ME ON TWITTER

Tweets by @Anthony_Bonato

Anthony Bonato @Anthony_Bonato

THIS. So much this!

20m

Anthony Bonato @Anthony_Bonato

I'd like to try @DrEugeniaCheng's idea & provide math enrichment in an elementary school. Maybe a future pilot? @HySciDean @DrStevenMurphy

21m

Anthony Bonato Retweeted Keith Devlin

Following

Clearly (because ≤ 20 examples is enough for a general proof) the mathematical blogosphere has something for everyone. I hope that you agree, and wish you happy readings.

References

- [1] JoAnne Growney, “Looking at Mathematics Blogs”, *Journal of Humanistic Mathematics*, Volume **1** Issue 2 (July 2011), pages 70–74. Available at: <http://scholarship.claremont.edu/jhm/vol1/iss2/8>, last accessed on January 23, 2018.
- [2] Rachel Levy, “Grandma Got STEM turns 100 posts old!” *Journal of Humanistic Mathematics*, Volume **3** Issue 2 (July 2013), pages 149–152. Available at: <http://scholarship.claremont.edu/jhm/vol3/iss2/15>, last accessed on January 23, 2018.
- [3] Cathy O’Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*, Penguin, London, 2016.