

The Erdős Number Project

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Mathematics and Science Center, Room 346  
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The Erdős Number Project



Read Aug. 1, 2014 [News at OU article \(/www.oakland.edu/view\\_news.aspx?sid=34&nid=11554\)](http://www.oakland.edu/view_news.aspx?sid=34&nid=11554) on the popularity of this website.

The Erdős Number Project

This is the website for the Erdős Number Project, which studies research collaboration among mathematicians.

The site is maintained by [Jerry Grossman](https://files.oakland.edu/users/grossman/web/index.html) (<https://files.oakland.edu/users/grossman/web/index.html>) at [Oakland University](http://www.oakland.edu) (<http://www.oakland.edu>). [Patrick Ion](http://www.ams.org/publications/60ann/MRPastAndPresent.html), a retired editor at [Mathematical Reviews](http://www.ams.org/publications/60ann/MRPastAndPresent.html) (<http://www.ams.org/publications/60ann/MRPastAndPresent.html>), and [Rodrigo De Castro](http://www.matematicas.unal.edu.co/) at the [Universidad Nacional de Colombia, Bogota](http://www.matematicas.unal.edu.co/) (<http://www.matematicas.unal.edu.co/>) provided assistance in the past. Please address all comments, additions, and corrections to Jerry at [grossman@oakland.edu](mailto:grossman@oakland.edu) (<mailto:grossman@oakland.edu>).

**Erdős numbers** have been a part of the **folklore of mathematicians** throughout the world for many years. For an introduction to our project, a description of what Erdős numbers are, what they can be used for, who cares, and so on, choose the “What’s It All About?” link below. To find out who **Paul Erdős** (<http://www.ams.org/images/erdos-photo-1.gif>) is, look at this **biography** (<http://www-history.mcs.st-and.ac.uk/history/Mathematicians/Erdos.html>) at the MacTutor History of Mathematics Archive, or choose the “Information about Paul Erdős” link below. Some useful information can also be found in **this Wikipedia article** ([http://en.wikipedia.org/wiki/Erd%C5%91s\\_number](http://en.wikipedia.org/wiki/Erd%C5%91s_number)), which may or may not be totally accurate.

- **What's It All About? (/enp/readme/index)**: General overview, including our (admittedly arbitrary) rules for what counts as a research collaboration.
- **The Data (/enp/thedata/index)**: Lists of all of Paul Erdős's coauthors and their respective coauthors, organized in various ways. There are also links to websites of or about Erdős's coauthors.
- **Facts about Erdős Numbers and Collaborations (/enp/trivia/index)**: Statistical descriptions of Erdős number data, a file of the subgraph induced by Erdős coauthors, Erdős number record holders, facts about collaboration in mathematical research and the collaboration graph, including some information about publishing habits of mathematicians (for example, the median number of papers is 2, and the mean is about 7). This subpage has loads of information about the collaboration graph and Erdős numbers, including the distribution of Erdős numbers (they range up to 13, but the average is less than 5, and almost everyone with a finite Erdős number has a number less than 8) and "Erdős numbers of the second kind".
- **Famous Paths to Paul Erdős (/enp/erddpaths/index)**: Fields Medalists and Nobel Prize winners have small Erdős numbers.
- **Compute Your Own Erdős Number (/enp/compute/index)**: It may be smaller than you think.
- **Research on Collaboration (/enp/research/index)**: Papers on collaboration in scientific research, collaboration graphs and other small world graphs, and Erdős numbers. A lot of research is currently being done by various scientists on collaboration graphs and related topics.
- **Information about Paul Erdős (/enp/erdosdeath/index)**: Information about and links to books, films, articles, memorials, reminiscences.
- **Paul Erdős's Publications (/enp/pubinfo/index)**: They continued to appear more than ten years after his death.
- **Related Concepts (/enp/related/index)**: Six degrees of separation, the Kevin Bacon game, Small Worlds, academic genealogy, Hank Aaron, graph theory.

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#### SPECIAL NOTES:

A nice audio feature (<http://relprime.com/erdos>) about Paul Erdős and Erdős numbers can be found on the Web.

A segment (<http://www.npr.org/2013/11/28/207885870/steven-strogatz-the-joy-of-x>) of the NPR program "Ask Me Another" featured a quiz about Erdős numbers.

I recommend a delightful children's book about Paul Erdős: The Boy Who Loved Math: The Improbable Life of Paul Erdős (<http://deborahheiligman.com/books/the-boy-who-loved-math/>).

This website was used as the basis for the 2014 Interdisciplinary Contest in Modeling (<http://www.comap.com/undergraduate/contests/mcm/contests/2014/problems/>).

There is a project in the works to create a documentary film on Erdős-Bacon numbers (<https://www.facebook.com/ErdosBaconMovie/>); see also the film's website (<http://erdos-bacon.com/>).

There is a blog about Erdős numbers (<http://www.financial-math.org/blog/2016/11/erdos-numbers-in-finance/>) on a site discussing mathematicians on Wall Street.

A new paper by Paul Erdős was published in 2015, with coauthors Ron Graham and Steve Butler. This makes Butler the 512th Erdős coauthor. He and his coauthors will be added to the lists at the next update (around 2020).

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**NOTES:** The data shown on this site are based primarily on all items appearing in MathSciNet (<http://www.ams.org/mathscinet/>) through mid-2015.

If you are an Erdős coauthor, I would really appreciate your sending me (<mailto:grossman@oakland.edu>) a

**complete list of your coauthors (with full names).**

One thing we'd really like to do is give more accurate information on some of the old coauthors' status — whether they are still alive. Look at the [list of coauthors arranged by date of first paper with Erdős](https://files.oakland.edu/users/grossman/enp/Erdos0d.html) (<https://files.oakland.edu/users/grossman/enp/Erdos0d.html>); if there is no asterisk after the name, then we assume the person is still alive, except as noted in the [addenda file \(/enp/thedata/update/index\)](#). If anyone has any information that one or more of these are deceased (or, as Paul Erdős would say, “have left”), please [let me know](mailto:grossman@oakland.edu) (<mailto:grossman@oakland.edu>). (We know some are alive; please report only those that have passed on, and report only Erdős coauthors, since there is no way we could extend this convention to those with Erdős number 2.)

I have deleted all links to the unsolicited translations that used to be here, because in some cases people were providing poor translations and linking to commercial sites.

You are visitor number **1166462** since we started keeping track on July 3, 1996, using  (<http://www.digits.net/>).

URL = <http://www.oakland.edu/enp>

This page was last updated on July 6, 2017 (but subpages may have been updated more recently).

However, the lists of coauthors and the various other statistics on this site are updated about once every five years. The current version was posted on July 14, 2015 and includes all information listed in [MathSciNet](#) (<http://www.ams.org/mathscinet/>) and [DBLP](#) (<http://dblp.uni-trier.de/db/index.html>) through mid-2015.

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