

A model for public documentation  
and sharing of the long-term  
achievements of graduates of  
mathematics programs in both  
regional and institutional contexts

Colm Mulcahy

Spelman College, Atlanta, GA

6 Jan 2016

## Questions of possible interest

When did your institution graduate its first mathematics student? First masters or PhD?

Who was (s)he and what did (s)he do later?

Who was your institution's earliest mathematics major to later earn a PhD in a related field?

Who was your institution's earliest mathematics major to later become a HS teacher, actuary, statistician, or academic? (or a dean, provost or president?)

## Other questions of possible interest 2

What percentage of your institution's graduates in mathematics in the 1990s went on to MBAs?

Law?

Medicine?

Or to any kind of grad school?

And in the 2000s?

Can you break that down by gender?

By race?

## Other questions of possible interest 3

Do you have a list of all of your institution's "high achieving" graduates in mathematics?

Does anyone else (Alum or Development Office)?

If so, who is engaging with this diaspora, to seek or share information, to invite former students to campus, or to act as inspiration or (long distance) mentors for current students, and to build community generally (even if only online)?

If not, would you like to get started?

## Different questions of possible interest

Who was the first Black man to get a mathematics PhD? The first Black woman?

Who was the first African to get a mathematics PhD in Africa? (as opposed to France or the UK?)

Who was first Irish woman to get a PhD in any of the mathematical sciences?

Who was the first Native American person to get a geometry PhD at an institution in the state of Washington?

## Different questions of possible interest 2

What percentage of Latinas with US probability PhDs were born outside the US?

How many Canadian women have PhDs in OR?

When did NZ issue its first PhD in biostatistics?

Who was the first Iranian with a PhD in topology?

The first Burmese woman with a PhD in algebra?

How many DE PhDs have been awarded in Mexico?

In Latvia? In Egypt? In Louisiana?

## Different questions of possible interest 3

Today, we are awash in data, yet many (or most) of the questions posed seem too difficult to answer.

Neither Wikipedia nor Wolfram Alpha can come to the rescue until much more information is hunted and gathered, checked and rechecked, and freely shared in a public way.

Who is going to do this hunting and gathering and sharing? (Hint: It won't be "federal institutions" !)

It may be that smart, diligent, committed person you spotted in the hotel bathroom mirror earlier.

## Some answers

Starting in Dec 2014, a big push has been made to collect, polish, and share information on “all” Irish mathematicians down through the centuries. The job is perhaps 80% done.

Starting in Jun 2015, a more modest push has been made to do the same for all Spelman math majors. Spelman is a women’s four-year liberal arts HBCU. That job is only about 20% done.

The sharing has been done via “degree database” websites and social media (Twitter).



## Some answers 2

The Irish data focusses on advanced degrees in mathematics, academic positions, supervising PhDs, and the publication of scholarly books.

The Spelman data focuses on tracking all majors, no matter what careers were subsequently followed.

While the two projects' aims are different, there is overlap. The same model (and html code) is used.

**Others are strongly encouraged to modify our methods and/or html code to track graduates in other contexts!**

## Data collection

Make extensive use of personal contacts as well as alum office, registrar's office, and the web.

1. The Math Genealogy website: lists people by PhD institution, year, and advisor. No gender or nationality (or ethnic group) is indicated.
2. Many major universities have online search engines allowing one to find "all" theses done there. Downside: theses are often not classified by subject area, nor are advisors generally noted.
3. Some math (and related) departments list their graduate degree recipients.

## Data collection 2

4. LinkedIn seems to be used by a high proportion of graduate degree holders born after 1970.
5. Specialist websites, such as MacTutor, AWM, NAM, Mathematicians of the African Diaspora, EDGE, MAA Convergence, etc.
6. Genealogical websites: census forms, family trees, death certs, SSDI, etc.
7. The personal touch: contact older (or retired) colleagues, your former teachers, those who went before you. Use email!

## Annals of Irish Mathematics & Mathematicians

1. A “degree database” of 1950 people, which includes many who merely did PhDs with Irish advisors (somewhere). Has head shots, obits, etc.
2. A spin-off page documenting over 580 books.
3. An Atlas of Irish Mathematics webpage with 230 mini-bios, including “big shots” and trail-blazers.
4. @IrishMathsFacts on Twitter.
5. Irish representaton at MacTutor site up 35%.
6. 2016 Irish Mathematics Calendar (produced by Maths Week Ireland) with 72 highlighted people.

## Archive of Spelman Mathematics

(a terrible name!)

1. A “degree database” of about 500 (of 600+ known) Spelman math grads. For about 100 of those there is later degree info (also head shots, LinkedIn or FB links, etc).
2. @Spelman\_Math on Twitter.
3. Brag sheet (blue, with Top 40 facts listed).

## Plans–Spelman

1. Develop a department newsletter (including “career snapshots” ) to be sent to all living grads.
2. Design, print and make available a 2017 Spelman Mathematics (or STEM) Calendar.
3. Get current Spelman math majors to interview former math majors and collect stories to flesh out the skeletal degree database.
4. A webpage featuring mini-bios for the Spelman math major “big shots” and trail-blazers.

## General philosophy

1. There are challenges, and there are obligations.
2. It's very important to reel in and document accounts of underrepresented people in mathematics.
3. Better to collect too much data than too little. (Was master's by thesis? If so . . . )
4. Cast the net wide (others can later decide to exclude/ignore some of your information).
5. Snatch history from the jaws of fate/obscurity.
6. Dream globally, gather data locally.

## Giving back

Ensure that the data found is submitted to the Math Genealogy and MacTutor sites and other appropriate places.

Curious fact: the most generous Spelman alum ever was a math major—over time she donated more to the college than (non-alum) Oprah did—yet we in the dept never knew this when she was alive.

Be pro-active to try to avoid such lost opportunities.



# We all shared the planet with this person



Alma C. Ferguson (later Crockett), Spelman C'29.

Our first math major!

Univ Wisc Madison MSc (1931)

"I owe the world a woman, I shall earnestly strive to pay my debt"—from her 1925 HS yearbook in Arkansas.

# Spelman Dept of Math is built on Four Pillars



Drs. N. Shah, S. Bozeman, G. Glass and E. Falconer.



How many Spelman folks can you spot here?

Top row L–R: Yewande Olubummo, Luvenia Hellams,  
Nagambal Shah, Tanya Moore, Palpasa Manandhar

Bottom row L–R: Monica Stephens, Jamila Mathias, Leona  
Harris, Jamie Chatman, Denise Natasha Brewley

# More to follow



Drs. Mohammed Tesemma & Viveka Borum of Spelman College welcome you to MathFest 2016!

Annals of Irish Mathematics & Mathematicians (and the associated 2016 calendar) is now sponsored by

MATHS WEEK IRELAND,

the world's largest mathematics outreach programme.

In Oct 2014, Maths Week Ireland engaged over 270,000 people (on an island of about 6.5 million)

[mathsweek.ie](http://mathsweek.ie)

@MathsWeek on Twitter