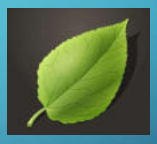
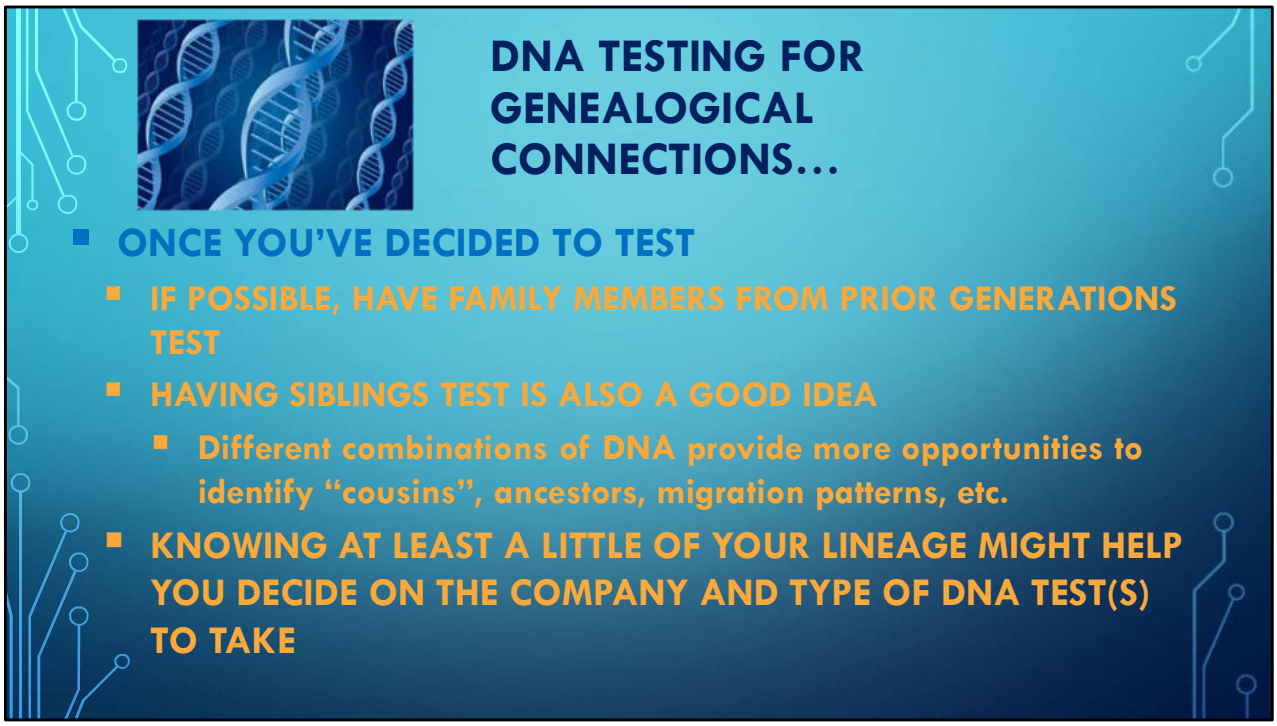
USING DNA TO FIND FAMILY CONNECTIONS



MARY-LYNN DUBRAY
2022-23 DIRECTOR-EDUCATION
QC GENEALOGY CLUB
23 FEBRUARY 2023



- **Encourage family members to test** – especially those from earlier generations. Very simply, older relatives share more DNA with your ancestors than you do, giving you many more DNA matches and the chances to find out more about where your ancestors came from and to collaborate with DNA cousins.

DNA inheritance: Each individual inherits 50% of their autosomal DNA from their mother and 50% from their father. Beyond that, they inherit approximately 25% from each grandparent and approximately half the previous amount from every subsequent generation of ancestry. Eventually, due to the random nature of autosomal DNA inheritance, there will be some ancestors from whom an individual does not inherit significant portions of their autosomal DNA. Any autosomal or X-DNA you inherit from a specific ancestor has to be less than or equal to the amount of DNA that your parent inherited from that same ancestor which in turn is a subset of the DNA that your grandparent inherited from that same ancestor. While your grandmother may share 25% of her DNA with your second great-grandparent, you will share only about 6% of your DNA with that same ancestor.

DNA test preferences area beginning to be seen around the world – because of that, knowing at least a little of your lineage might help you decide on the company and type of DNA test(s) to take.

- **AncestryDNA** primarily tests users from **North America** but has also expanded into the **UK.**
- **MyHeritage**'s test is **most popular in European countries**.
- **23andMe** provides not only autosomal testing, but mtDNA (mitochondrial - matrilineal) and Y-DNA tests (patrilineal – only males can test) -- can provide better information if you have **Native American ancestry**
- **LivingDNA** best ancestry test for people with **roots in the British Isles (Irish).**

https://isogg.org/wiki/Autosomal_DNA_testing_comparison_chart

Any one of the leading DNA companies will do a good job of providing you with reports and tools that can help you understand your family's genetic past. However, I'll give you a little info on some tests that you might consider when choosing a testing company for the primary purpose of finding connections that will further fill your Family Tree.

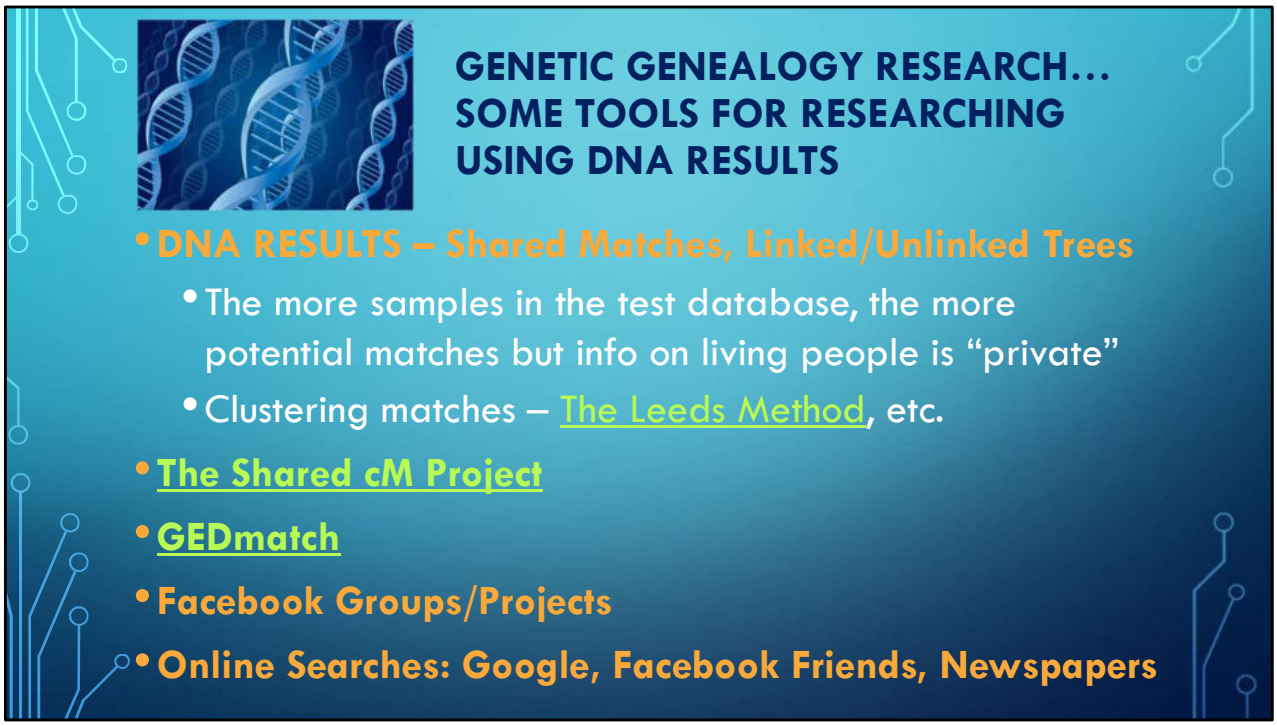
AncestryDNA is probably the most well-known test – their sample database by far is the largest with approx. 20 million testers; primarily from **North America** but test usage has also expanded into the UK. AncestryDNA's test is strictly an autosomal DNA test; They do not accept uploads of any other testing company's DNA test results so you'll have to use their test for ethnicity reports and matches of potential relatives from their database. Ancestry DNA does allow you to download your raw DNA information which you could then upload to other testing companies that do accept uploads.

23andMe is another well-known company with a database of approx. 12 million testers. 23andMe tests autosomal DNA, X-chromosome DNA, Y-chromosome DNA, and mitochondrial DNA (mtDNA). Using these extra sources of DNA, 23andMe can determine your haplogroups, which can tell you about your maternal and paternal lines. They also estimate your Neanderthal DNA, and can provide better information if you have Native American ancestry.

MyHeritage is primarily a company based around building and researching your family tree. MyHeritageDNA test is **most popular in European countries** – like AncestryDNA, their test is strictly an autosomal test. They also have one of the largest database sizes, so test results have a higher statistical probability of being correct. The company provides for you to do in-depth ancestry research on your family history, connect to your relatives in their database, and you can use your ancestry report to help build your family tree.

FamilyTreeDNA is best for those who are serious about genealogy and want a DNA analysis specific to one side of their family. With FTDNA, you can purchase the Y-DNA or mtDNA tests, allowing you to get test results specific to your paternal and maternal lineage. While these specific tests come with an additional cost, FTDNA is the only DNA-analysis company to offer comprehensive DNA tests on these parts of your DNA. Essentially, this allows you to determine your father or mother's genetic makeup and find connections based on specific lines.

Living DNA is considered by many to be the best ancestry test for people with **roots in the British Isles (Irish).** Both YDNA and mtDNA are tested. You can also search LivingDNA's user database for family matches simply by uploading your raw DNA data from another DNA analysis site for free. They offer DNA matching, use a cheek swab and are now partnered with **Find My Past**.



Review your DNA results for matches/potential connections: Review family trees (if there are any). Don't just review "connected trees". Many users test DNA and have public trees but don't link their DNA to those trees. Identify shared matches - **The Leeds Method** is a way of clustering matches developed by Dana Leeds that uses a spreadsheet to sort DNA matches into color groups based on shared ancestors. It often creates four groups of DNA matches based on four grandparent lines. (https://www.danaleeds.com/the-leeds-method/). Ancestry now breakdowns DNA results under your individual parents' family lines. They're useful but not always correct.

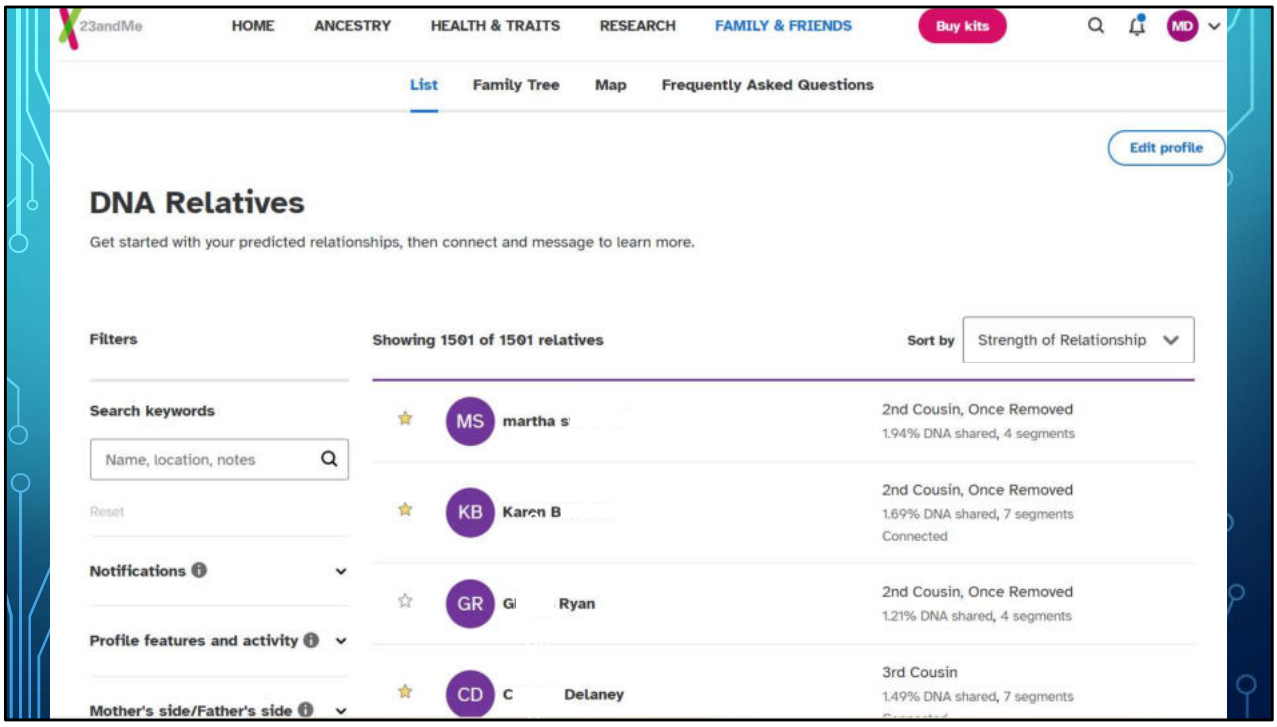
The Shared cM Project: Ethnicity/Ancestry (available at https://dnapainter.com/tools/sharedcmv4) is one of the most commonly used tools for estimating relationships between people with shared DNA. It was last updated in March 2020.

- This tool is very helpful when trying to determine potential relationships with DNA matches.

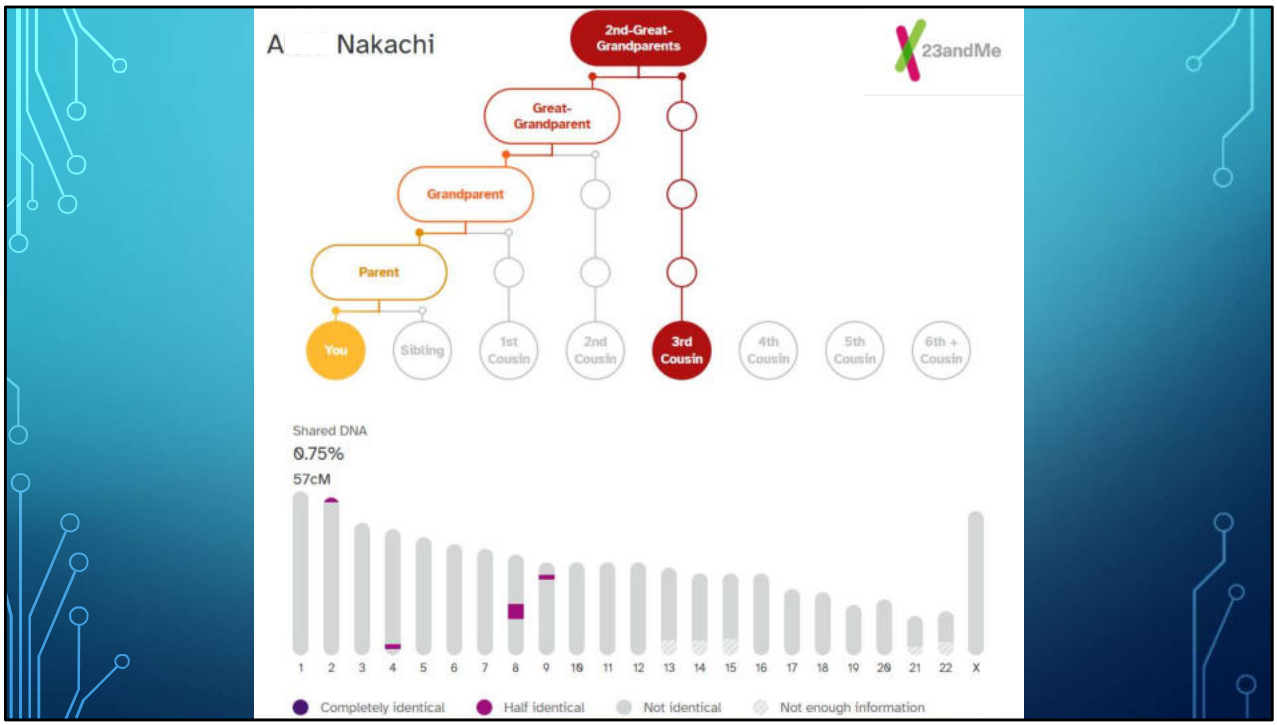
GEDmatch **GEDmatch** (https://app.gedmatch.com/login1.php) is NOT a DNA testing company – it is a website with valuable tools where people who have tested compare DNA results and find matches with others who've testing using different companies – it basically expands the database of possible matches beyond a single testing company. It also breaks down and displays shared segments using a chromosome browser, provides triangulation and many other tools.

Facebook Groups/Projects: There are many Facebook groups available to aid in your research. Examples include groups/projects for those researching ancestors or descendants from/in geographical areas, surnames, DNA-related research, adopted members, etc.

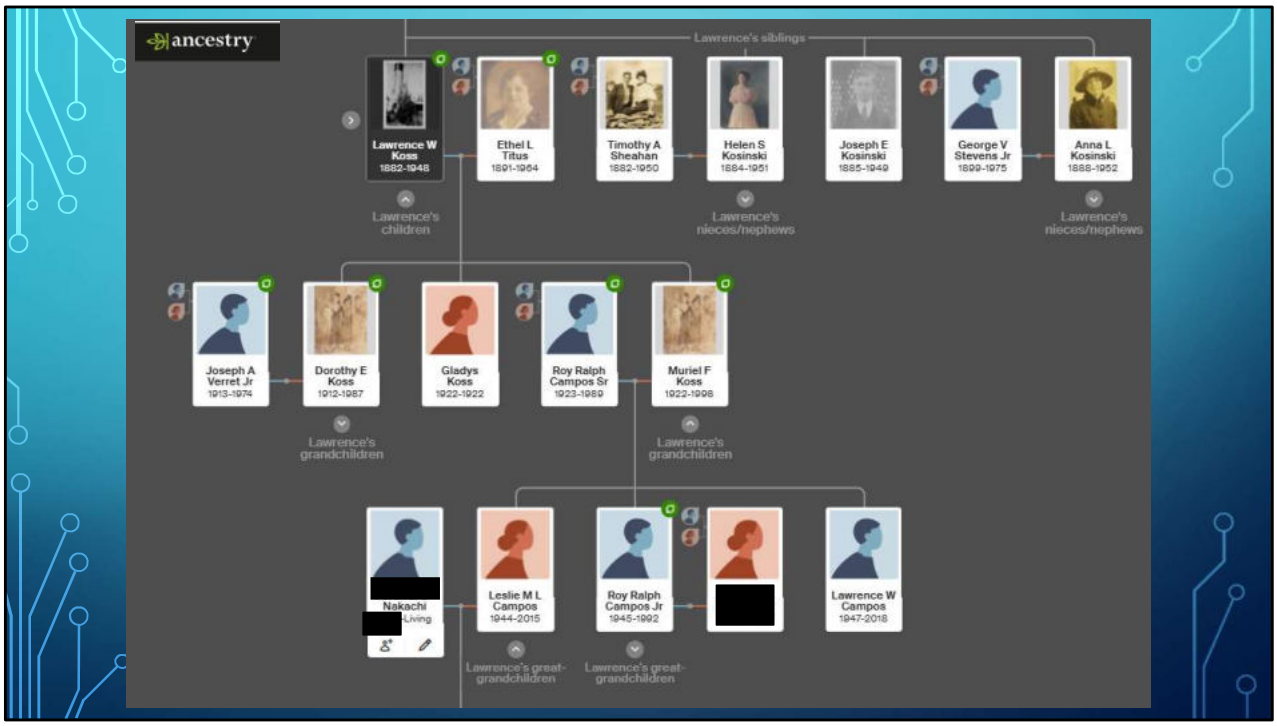
Online Searches: Google is your friend (or Bing or whatever your favorite search engine might be) – online obituaries and newspapers can provide you with information on not only deceased relatives but also living relations. Using the information provided in a Google search (such as an obituary that lists deceased person's children, their spouses, grandchildren), I have many times search for Facebook accounts and been able to find and/or verify connections. (Of course, my personal recommendation would be that you set your own Facebook accounts with more secure privacy settings so others can't necessarily find your family members this way).



Martha S. – (Paternal great-grandmother) Quinn Family line – actual relationship: 2nd Cousin, Once Removed
Karen B. – (Paternal great-grandparents Steele/Twohig line) – actual relationship: 2nd Cousin, Once Removed
G. Ryan -- ??
Charles Delaney -- ?? – but my Maternal great-grandmother was a Delaney

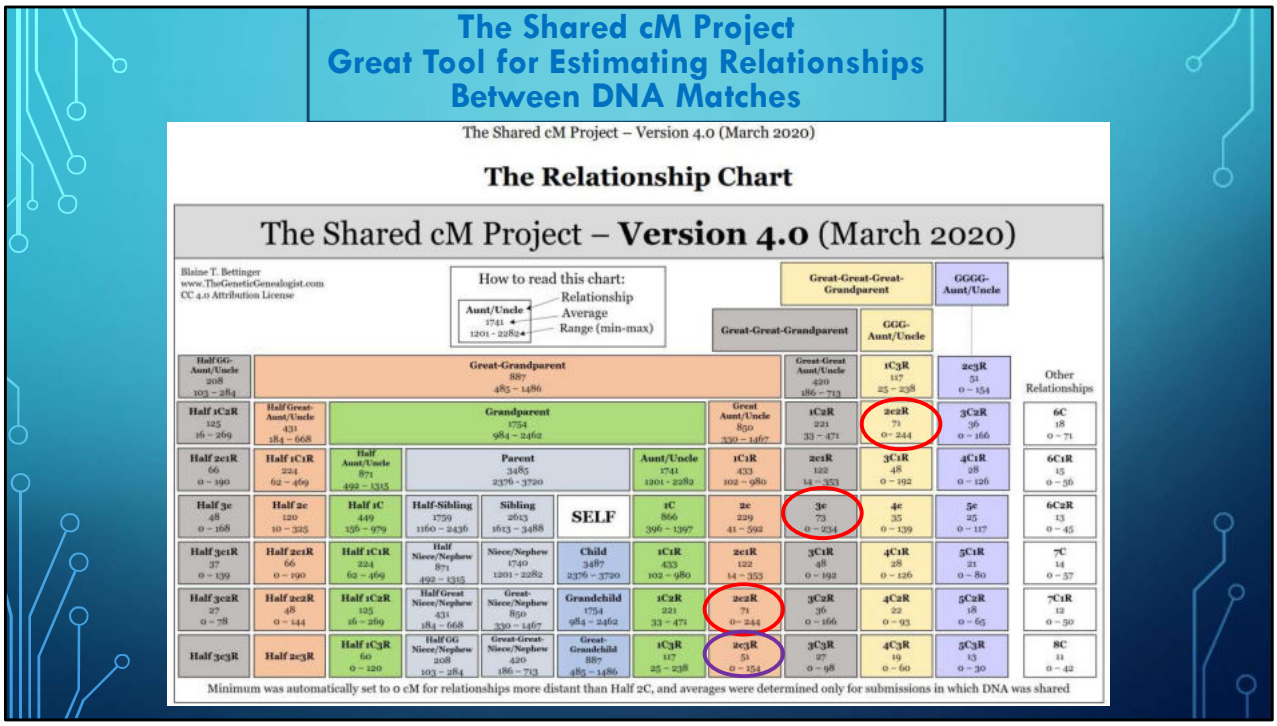


Farther down my matches I found this match – A. Nakachi – estimated relationship of 3rd cousin. Why this got me excited…



My family's had no contact with one of the branches of my mother's Kosinski line since sometime in the mid- to late-1990s – Lawrence Kosinski had changed his last name to "Koss" soon after reaching adulthood. He'd moved his family to Hawaii during the 1930s – they'd make annual or sometimes biannual visits to relatives in the Mainland for many years. My mother knew that her first cousin, Muriel Koss-Campos had a daughter that married a "Nakachi". Based on my initial research, I believe it's likely that Alohi is probably a great-grandchild of Muriel – making him/her most likely relationship to me to be a 2nd cousin, 2x removed.

Using my 23andMe test results (57 cM shared DNA on 4 segments) along with a tool I mentioned previously (DNA Painters's "The Shared cM Project") by comparing both the estimated relationship from 23andMe (3rd cousin) and the most likely relationship based on my Family Tree's confirmed relationships (2nd cousin, 2x removed), do my DNA results make sense?



This Shared cM Project (available at https://dnapainter.com/tools/sharedcmv4) is one of the most commonly used tools for estimating relationships between people with shared DNA. It was last updated in March 2020.

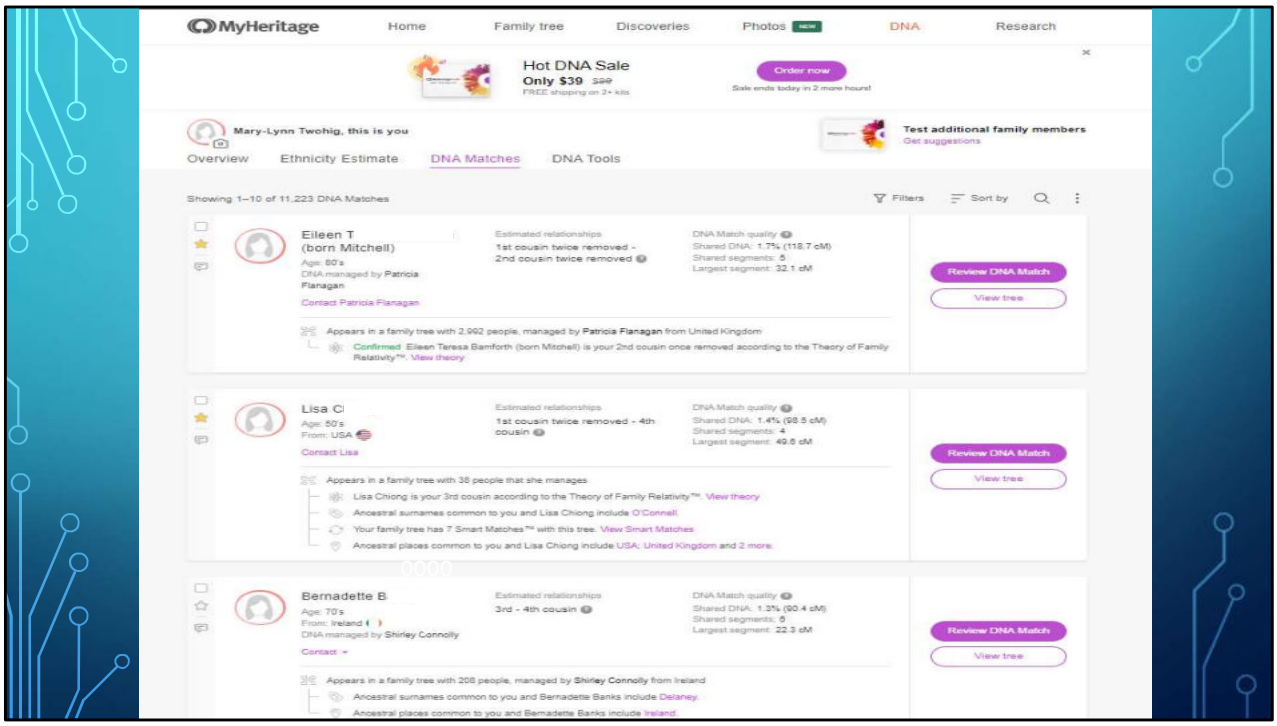
- Comparing the 23 andMe DNA shared DNA results with the predicted relationships based on shared DNA on this chart, do my results make sense?

- The average shared DNA centimorgans (cM) among **3rd cousins** tested/compiled for this database is **73**. However, also based on this data, a 3rd cousin **could share as little DNA as 0 cM or as much as 234 cM.**

- The average shared DNA centimorgans (cM) among **2nd cousins, once removed** tested/compiled for this database is very similar - **71**. Again, based on this data, a 2nd cousin, 1x removed **could share as little DNA as 0 cM or as much as 244 cM**

- The shared DNA results from 23andMe – **57 cM –** definitely fall within the ranges of either relationship. And if Alohi ends up being my 2nd cousin, twice removed (Avg 51cM, range 0-154) that would also make sense. No surprises here.

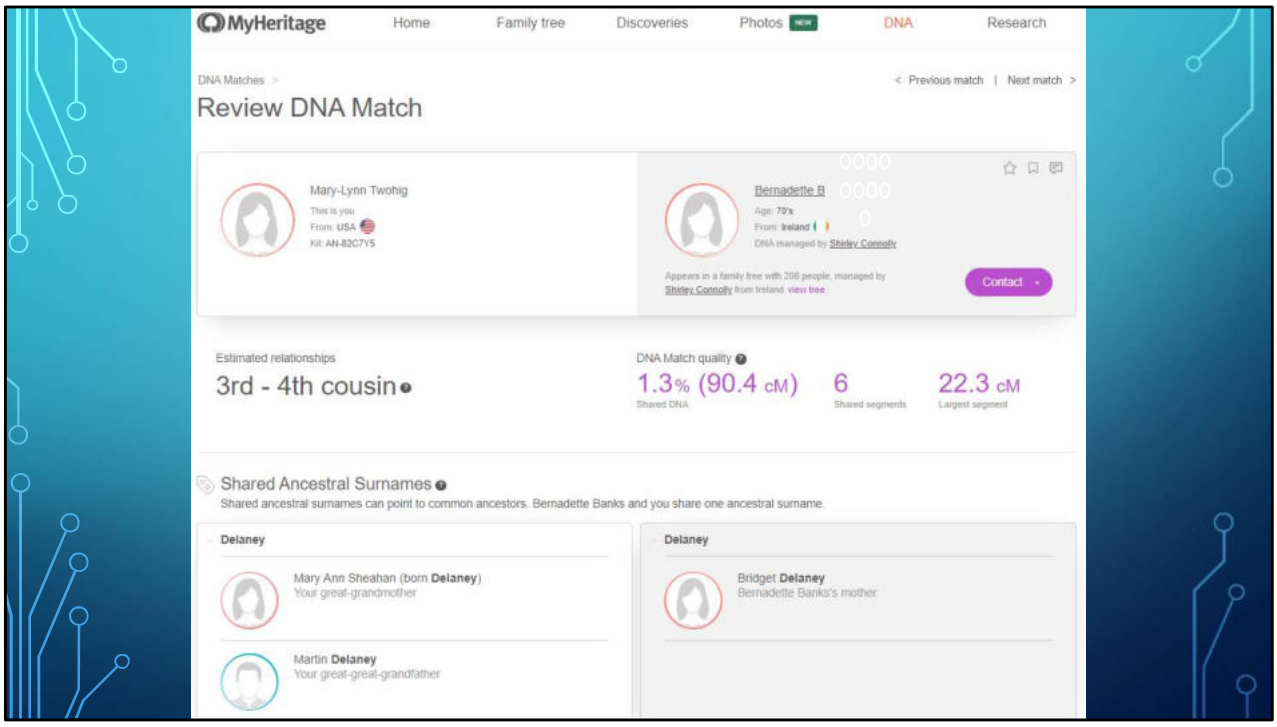
- This tool is very helpful when trying to determine potential relationships with DNA matches.



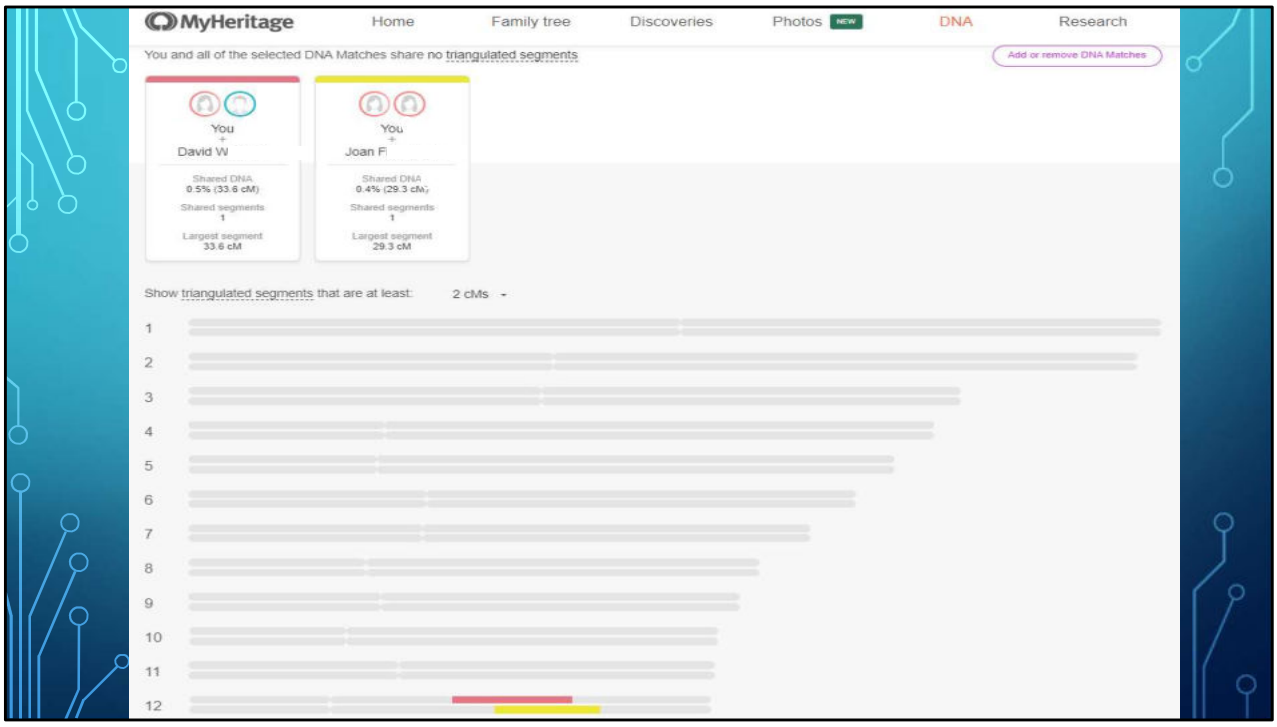
Eileen T – I not only know this connection from my Quinn line – she hosted me, a couple of my siblings and 13 other "Quinn" cousins we'd never known about before at the Blackpool Golf Club in the UK.

Lisa C – mentions that she has "O'Connell's" in her ancestry – so do I but that's not how we're related

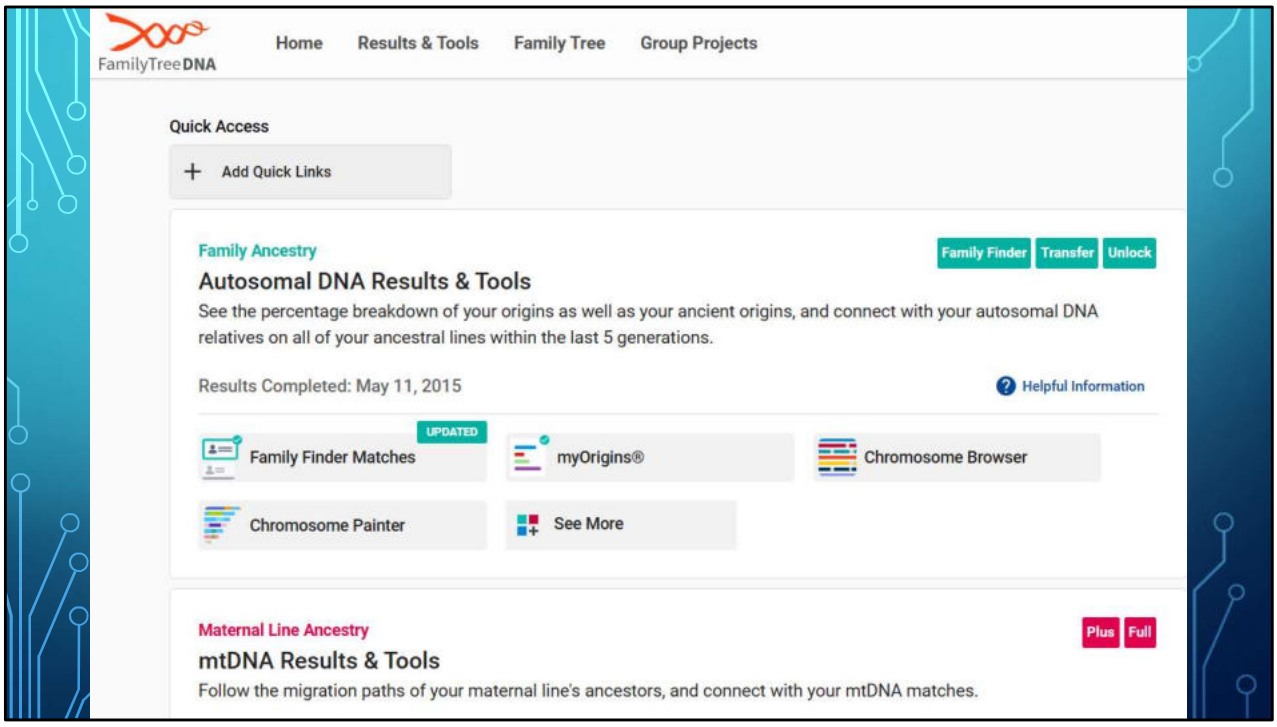
Bernadette B – I've not seen this person/match on any of my other companies' test results so I don't know the connection (yet). But it does mention that a director ancestor of hers was a "Delaney".

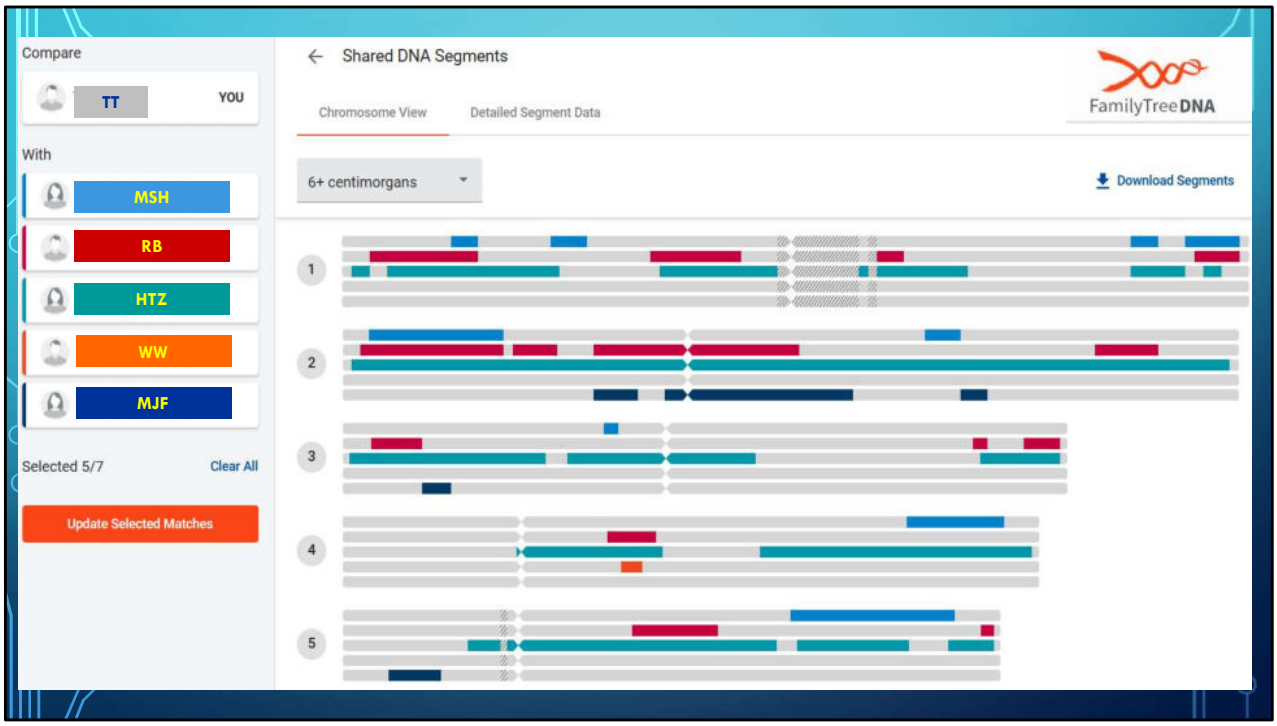


Clicking to "Review the Match" from Bernadette's line I see that she's from Ireland, in her 70s and her mother was a Bridget Delaney. A maternal great-grandmother of mine was a Mary Ann Delaney so that's where I'd probably start looking.

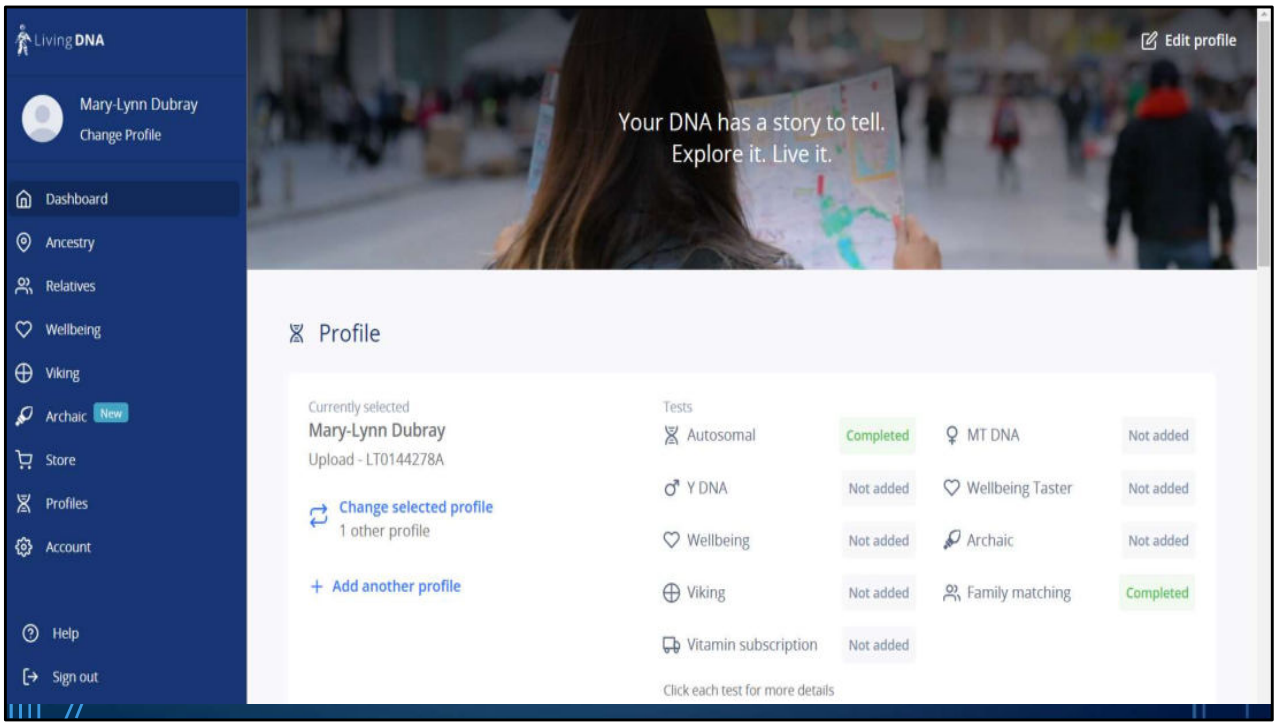


Just one example of chromosome browser from MyHeritage showing segments of DNA that two of my matches share with each other.


FamilyTreeDNA
Home
Results & Tools
Family Tree
Group Projects
Quick Access
Add Quick Links
Family Ancestry
Family Finder
Transfer
Unlock
Autosomal DNA Results & Tools
See the percentage breakdown of your origins as well as your ancient origins, and connect with your autosomal DNA relatives on all of your ancestral lines within the last 5 generations.
Results Completed: May 11, 2015
Helpful Information
UPDATED
Family Finder Matches
myOrigins®
Chromosome Browser
Chromosome Painter
See More
Maternal Line Ancestry
Plus
Full
mtDNA Results & Tools
Follow the migration paths of your maternal line's ancestors, and connect with your mtDNA matches.

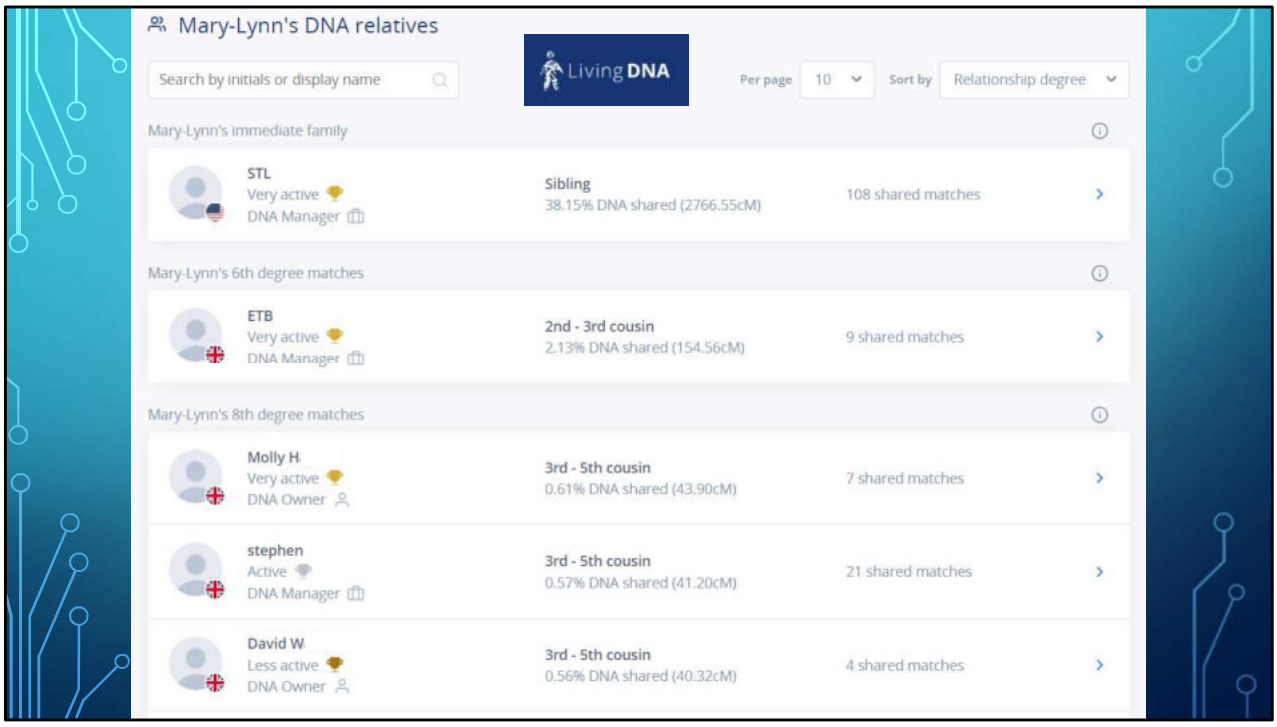


Detailed Segment Data tab provides the actual segment start/stop locations for each match by chromosome.



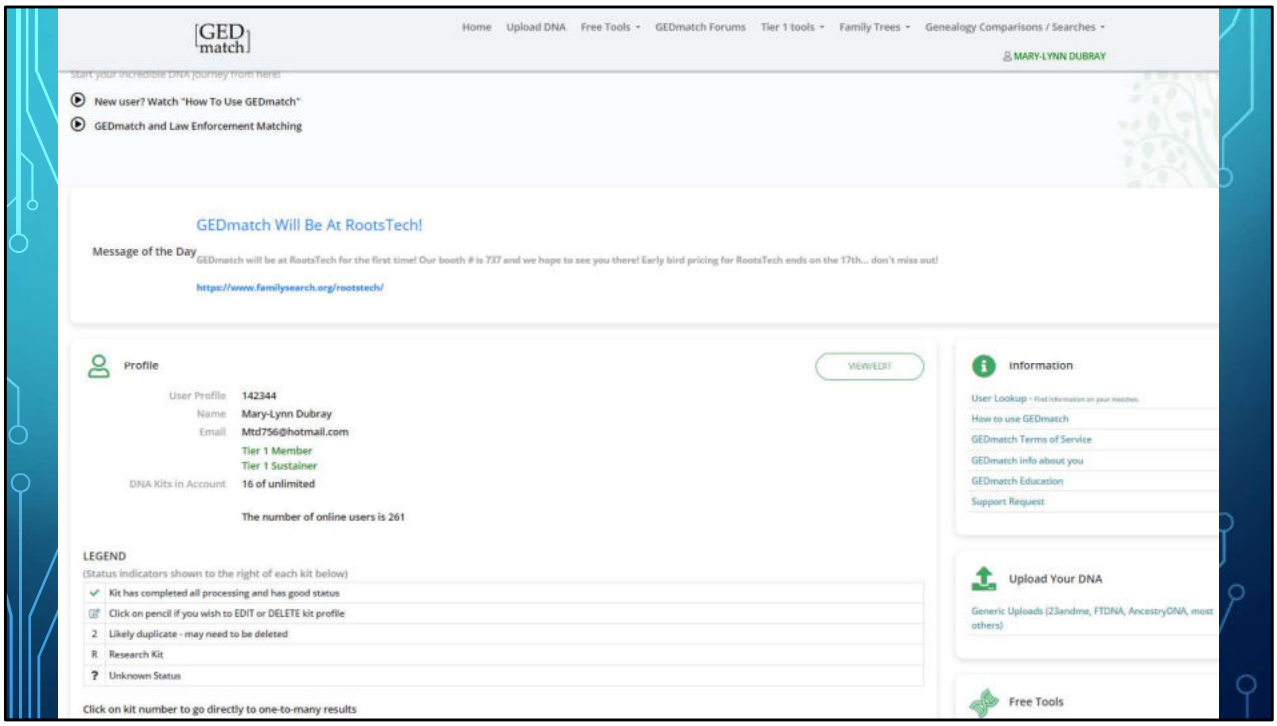
I **DID NOT** test with Living DNA – however I **DID UPLOAD** my raw data in effort to find some "DNA relatives" – especially those with UK and Irish roots.

Living DNA is considered by many to be the best ancestry test for people with **roots in the British Isles (Irish).** Both YDNA and mtDNA are tested and you can get those results for an additional fee (Only males have YDNA).

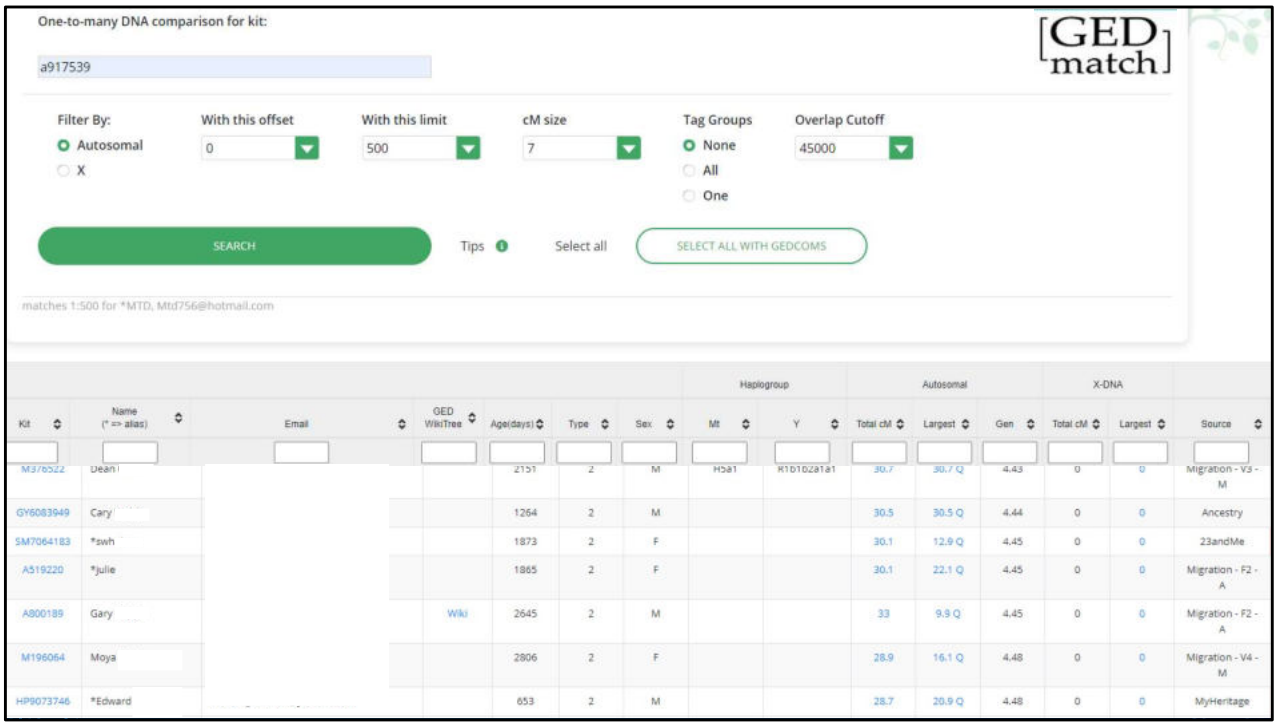


STL is one of my siblings. You've seen other test result examples of mine that included ETB and David W. I've seen Stephen in some of my other test matches but Molly H was a new find.

Relatives that ETB and I have in common -- **This gives some valuable leads to find connections.** As I mentioned, I recognized Molly's surname and was able to make the connection with ETB and myself on my Quinn family line.



GEDmatch Tools – Profile page


One-to-many DNA comparison for kit:
a917539
[GED match]
Filter By:
Autosomal
X
With this offset
0
With this limit
500
cM size
7
Tag Groups
None
All
One
Overlap Cutoff
45000
SEARCH
Tips
Select all
SELECT ALL WITH GEDCOMS
matches 1:500 for *MTD, Mtd756@hotmail.com
Haplogroup
Autosomal
X-DNA
Kit
Name (* => alias)
Email
GED WikiTree
Age(days)
Type
Sex
Mt
Y
Total cM
Largest
Gen
Total cM
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Source
M376522
Dean
2151
2
M
H5a1
R1b1b2a1a1
30.7
30.7 Q
4.43
0
0
Migration - V3 - M
GY6083949
Cary
1264
2
M
30.5
30.5 Q
4.44
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0
Ancestry
SM7064183
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1873
2
F
30.1
12.9 Q
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23andMe
A519220
*julie
1865
2
F
30.1
22.1 Q
4.45
0
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Migration - F2 - A
A800189
Gary
Wiki
2645
2
M
33
9.9 Q
4.45
0
0
Migration - F2 - A
M196064
Moya
2806
2
F
28.9
16.1 Q
4.48
0
0
Migration - V4 - M
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*Edward
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M
28.7
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4.48
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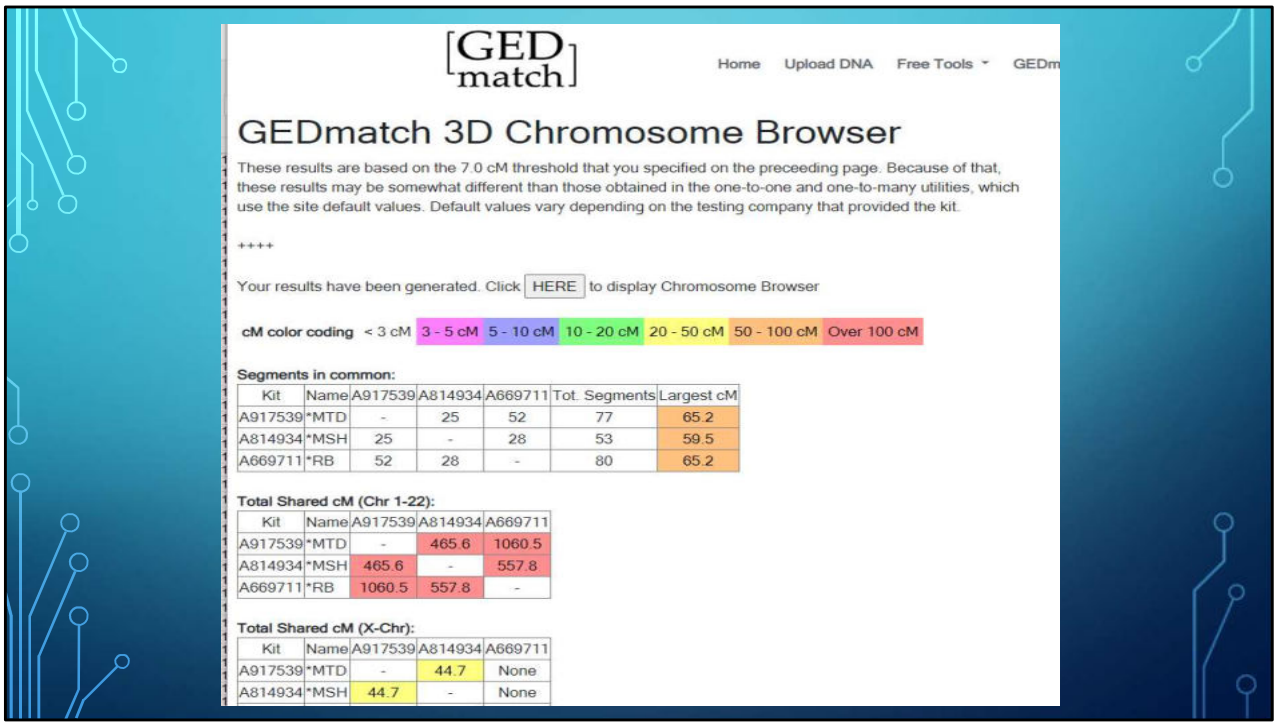
MyHeritage



[GED match] Home Upload DNA Free Tools GEDm

GEDmatch 3D Chromosome Browser

These results are based on the 7.0 cM threshold that you specified on the preceeding page. Because of that, these results may be somewhat different than those obtained in the one-to-one and one-to-many utilities, which use the site default values. Default values vary depending on the testing company that provided the kit.

++++

Your results have been generated. Click HERE to display Chromosome Browser

cM color coding < 3 cM | 3 - 5 cM | 5 - 10 cM | 10 - 20 cM | 20 - 50 cM | 50 - 100 cM | Over 100 cM

Segments in common:

Kit	Name	A917539	A814934	A669711	Tot. Segments	Largest cM
A917539	*MTD	-	25	52	77	65.2
A814934	*MSH	25	-	28	53	59.5
A669711	*RB	52	28	-	80	65.2

Total Shared cM (Chr 1-22):

Kit	Name	A917539	A814934	A669711
A917539	*MTD	-	465.6	1060.5
A814934	*MSH	465.6	-	557.8
A669711	*RB	1060.5	557.8	-

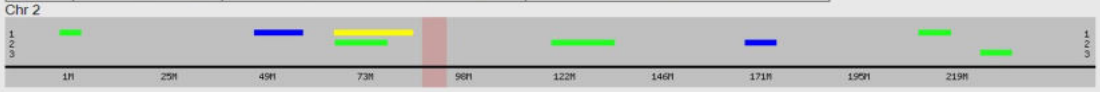
Total Shared cM (X-Chr):

Kit	Name	A917539	A814934	A669711
A917539	*MTD	-	44.7	None
A814934	*MSH	44.7	-	None

Chr 2

Match ID	Name	Matching segments on Chromosome 2	Overlap with previous match
1	*RB(A669711)	38938 - 5226371 (10.2 cM), 48318158 - 60290360 (9.1 cM), 68138786 - 87322042 (20.8 cM), 212781914 - 220556378 (12.7 cM)	root
2	*MJF(A733762)	68235796 - 81102264 (16.5 cM), 121875540 - 137435455 (17.4 cM), 169752512 - 177365599 (9.9 cM)	68235796 - 81102264
3	*MSH(A814934)	228090768 - 235707172 (14.1 cM)	root

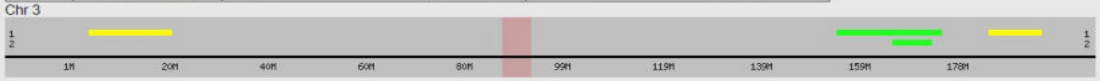
Chr 2



Chr 3

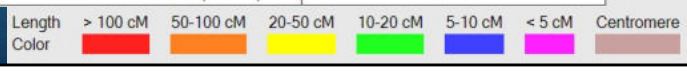
Match ID	Name	Matching segments on Chromosome 3	Overlap with previous match
1	*RB(A669711)	6061053 - 22594900 (26.0 cM), 156700416 - 177767236 (18.7 cM), 187218499 - 197833758 (24.1 cM)	root
2	*MJF(A733762)	167896868 - 175670278 (11.5 cM)	167896868 - 175670278

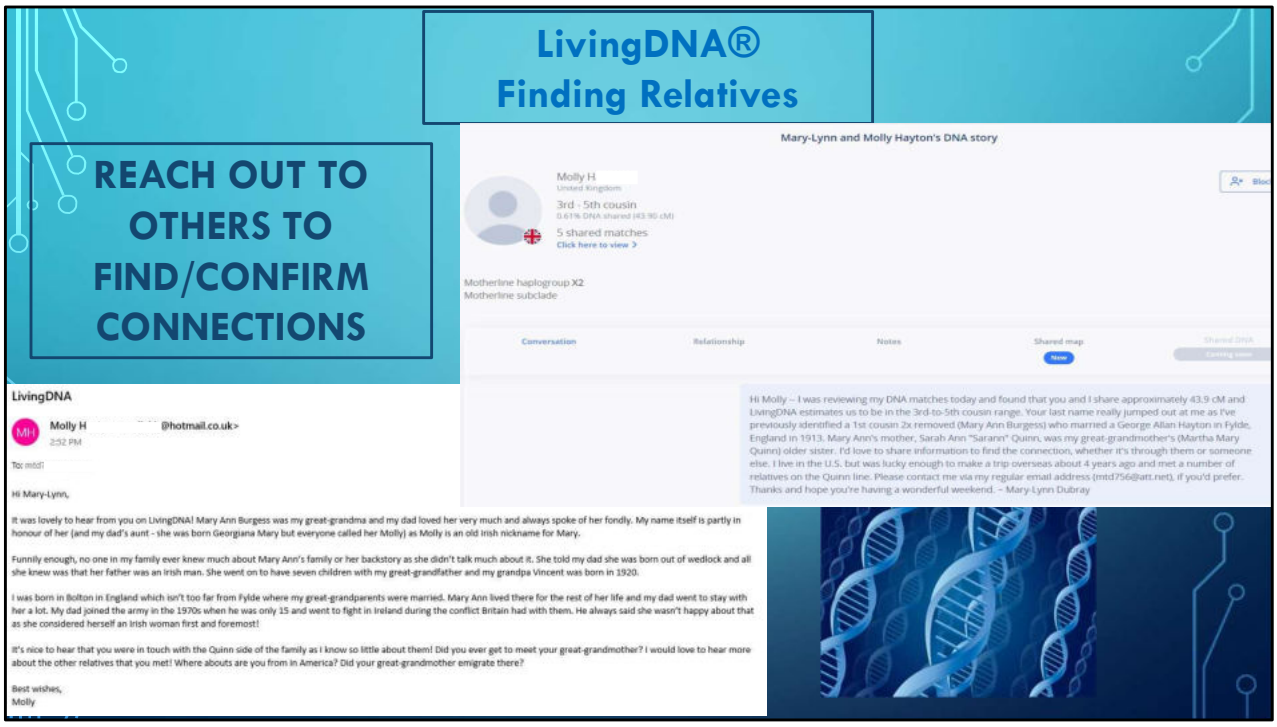
Chr 3



Chr 4

Match ID	Name	Matching segments on Chromosome 4	Overlap with previous match
1	*RB(A669711)	3874052 - 6733659 (8.3 cM), 16469713 - 49061848 (36.3 cM), 52720761 - 73774717 (18.1 cM), 83274634 - 141374484 (48.9 cM)	root
2	*MSH(A814934)	155027927 - 182572102 (32.8 cM)	root
3	*MJF(A733762)	113779891 - 141036126 (21.0 cM)	root

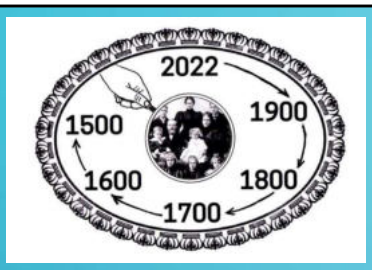




Upon finding DNA matches, testing companies have messaging systems you can use to contact your potential relatives, attempt to determine actual relationships and possibly share information. The top portion of this slide shows a recent message I sent to one of my matches in the **LivingDNA** test database. Since I recognized her surname from other connections previously made in the UK, I gave her specific info of a potential line of my family tree where I thought we might be related. The bottom portion of the slide shows her response to me.

Yes! We've now confirmed a 3rd cousin, 1x removed relationship between us. I've also been able to put her in touch with other members of our common Quinn family living in the UK.

Okay – let's look at your DNA stuff…



LET'S LOOK AT YOUR DNA RESULTS