DNA Genealogy Experiment

The Swedish project DNA Genealogy Experiment, with the purpose to simplify family tree comparison of Family Finder matches, has been closed for new registrations for some time, because of discussions with Family Tree DNA about data security and the appropriateness of copying user data to third party servers.

Meanwhile, Göran Runfeldt in cooperation with Staffan Betnér have been developing new tools for analysis of Family Finder matches. As opposed to the tree matching functions on Dnagen (http://dnagen.net), these tools run in the web browser as bookmarklets on top of familytreedna.com, without any data being sent to third parties. These new functions focus on visualization of In Common With-relations in new ways, to give a better visual overview of how matches are connected to each other.

Family Finder Common Matches Circle

The **Common Matches Circle** arranges your Family Finder matches in a wheel structure and draws lines between those who have In Common With-matches. Your matches are arranged in clusters based on how they are connected and are grouped and colour coded accordingly, to give a clearer overview.

![Family Finder Common Matches Circle](image)

The wheel can be zoomed and panned using the mouse pointer and a person can be highlighted to see which matches you have in common with that specific person. (Zoom with the scroll wheel, left-click and drag to pan around, and hover over a person’s name to highlight)

The **settings panel** on the right of the page controls the look of the wheel:

- **Scale names by cM** – The text size is adjusted based on the number of shared centimorgans between you and the person, so that closer relatives are shown in larger text.
• **Show matches without ICW**s – Show matches that do not have any In Common With-matches according to the current relation filter (see below).

• **Colour** – Colour code people’s names based on different criteria. Colour descriptions are shown in the Legend box on the left of the page.
- Monochrome – No colour coding.
- Cluster colour – The default setting where matches are colour coded based on which clusters they have been grouped in.

- Email country colour – Tries to guess people’s country based on email address top level domain (.com/.net/.org domains are shown in grey).
- Y-Haplogroup colour – Matches are colour coded based on the first letter of the Y-DNA Haplogroup.
- mt-Haplogroup colour – Matches are colour coded based on the first letter of the mtDNA haplogroup.
- Match date colour – Colour code based on the year or month when the match appeared. Useful to see in which clusters that new matches appears in, over time!

- Primary chromosome – Colour code based on which chromosome that contains most shared DNA (total cM) with the person.
- Predicted range – Colour code based on estimated relationship distance.
• **Group by** – The default setting groups matches based on cluster, but by changing to Group by colour the matches are instead grouped by the criteria used for colour coding, which enables you to for example group by email country, haplogroup or primary chromosome and visualize the relations between those groups.

• **Relations** – ICW relations are filtered to give a better overview of the strongest relationships, based on the amount of shared DNA (total cM) between the matches.

The default setting “Show > median cM” will filter around half of the ICW relations. Try lowering the threshold to see more ICW relations (lines) between the matches. Most users should not have any problems using “Show all relations”.

However, if you have many Family Finder matches, the wheel can take a long time to load and slow down the computer. If that happens, try changing this setting to “Show > 200% cM” and then lower the threshold gradually until you have a manageable amount of relations to investigate.

• **Tension** – Try changing the line tension by moving the slider and see what you like best.

Would you like to tell your story in Swedish DNA Project News? Do you have an article, hints or tips, or related news item to publish?

Please contact one of the project administrators. This issue was edited by Magnus Bäckmark (magnus.baeckmark@swipnet.se).
Family Finder Common Matches Graph

The **Matches Graph** gives a slightly more advanced and interactive visualization of the relationships between Family Finder matches. By using a visualization algorithm called Forced Atlas 2 the matches are arranged in a graph structure which is sometimes reminiscent of a spider web and sometimes a ball of twine.

Each circle represents a DNA match and the circle size says how close the match is to the main person (total shared cM). Each line represents an In Common With-match between two people.

When zooming in with the mouse wheel the names of the people will display. Click on a circle to highlight the ICW-matches with a specific person.

The look and loading time of the graph will vary greatly between different match results. For some people the graph will stop moving around after some time and for others it will keep moving indefinitely. You can always click the pause button to stop the animation and the start button to restart the animation.
The **settings panel** on the right of the page controls the look of the graph:

- **Hide names** – Hiding the names can make the graph look cleaner and is also useful if you want to share a screenshot while protecting the privacy of your matches. You can still see the names of your matches by hovering over a circle with the mouse pointer.

- **Colour** – Colour code persons’ names based on different criteria. Colour descriptions are shown in the Legend box on the left of the page.
  - Cluster (Rough) – The default setting where matches are colour coded based on which clusters they have been grouped in
  - Cluster (Fine-grained) - Identifies more detailed clusters (Smaller groups with more colours)
  - Email country – Tries to guess people’s country based on email address top level domain (.com/.net/.org domains are shown in grey)
  - Y-Haplogroup – Matches are colour coded based on the first letter of the Y-DNA Haplogroup.
  - mt-Haplogroup – Matches are colour coded based on the first letter of the mtDNA haplogroup.
- Match date – Colour code based on the year or month when the match appeared. Useful to see in which clusters new matches appear in, over time!

- Primary chromosome – Colour code based on which chromosome contains the most shared DNA (total cM) with the person. Can give interesting results when whole clusters are shown to belong to the same chromosome segment!

- Predicted range – Colour code based on estimated relationship distance. Gives a hint about which clusters originate further back in time.
• **Relations** – The relationship filter makes a big difference for the Matches Graph. “Show all relations” will use all information and is therefore the most truthful graph, but with many matches it can quickly become convoluted. All match results work differently, so experiment with the settings here!

**Getting Started**

• First you need to create two bookmarks in your web browser. Go to [http://dnagen.net](http://dnagen.net) and drag-and-drop the two links Dnagen Match Graph and Dnagen Match Circle to your bookmarks or favourites bar. (With Firefox and Internet Explorer you can also right-click the links and choose Bookmark/Add to favourites)

• Example result:

![Example result](https://dnagen.net/)

• Login to [Family Tree DNA](https://www.familytree.com) and go to Family Finder – Matches

• Click on one of the bookmarks

• Your matches will now be loaded into the web browser

• When the result has been loaded you can browse it and try the different visualization settings in the panel to the right

• When you are done checking the results you can simply navigate to another web page or close the web browser

• Feedback and discussions about the functionality are welcome in the Facebook group [DNA Tools](https://www.facebook.com/dna.tools) or the Swedish speaking group [DNA-anor](https://www.facebook.com/dna.anor).

_Göran Runfeldt_