Genetics for Genealogy

This page provides a platform to organize and distribute workshop and course materials on the genetics of genealogical relationships. Here you will find slide presentations from past events along with links to web pages containing detailed explanations of certain topics.

Source: Bryant McAllister, PhD

Overview: With a single mouse-click sophisticated genetic tests for human ancestry analysis are available directly to consumers at a relatively low cost. Advances in human genetics over the past 30 years have enabled the emergence and growth of this “recreational genetics” marketplace. My goal is to introduce the science underlying these tests, compare the products delivered by the companies that dominate the US marketplace (e.g., 23andMe, AncestryDNA, Family Tree DNA, MyHeritageDNA, and The Genographic Project), and demonstrate their utility. Personal genetic analysis provides a window into the past at different time scales, including genetic inferences of pre-genealogical ancestry along with the discovery of genetic relationships between cousins as a genealogical research tool. They also provide the means to glean information from your own DNA recipe.

Objectives

- Evaluate the products and deliverables of direct-to-consumer DNA tests
- Conceptualize the organization of the human genome and properties that contribute to its variability among individuals
- Build proficiency in the methods and interpretation of test results of human ancestry and biological relationships

Blog

Exponential Growth of the AncestryDNA Database
McAllister, Bryant F posted on Sep 15, 2017
I posted a few times in the summer of 2015 when 23andMe and AncestryDNA both reached the threshold of genotyping their first million customers. I’m consistently amazed at how popular these commercial DNA tests have become. In this year, 23andMe has grown to 2 million customers in the 10 years https://mediacenter.23andme.com/about-us/ since launching the first version of their DNA testing service. AncestryDNA now has 5 million customers https://www.ancestry....

- g4g

Resources

List of Resources
Guide to SNP Matching
Comparison of DTC Testing Companies
Upcoming Events

**October meeting of the DNA Interest Group - Iowa City**

**Tips on getting more from an AncestryDNA test**

October 23, 6-7pm, Digital Media Lab, 2nd Floor, Iowa City Public Library

AncestryDNA provides an intuitive web interface for navigating the results of a DNA test, which has fostered their growth to now having more than 10 million customers. A variety of features available on the AncestryDNA platform are not obvious and may not be apparent to the casual user. This meeting of the DNA Interest Group will focus on accessing these hidden features and using them in family history research. We will meet in the Digital Media Lab of the Iowa City Public Library. Attendees are encouraged to bring a device for accessing their AncestryDNA results or bring their login information and access their account using a computer in the library. This presentation will also provide insights and applications for those that have not taken the AncestryDNA test but may be considering it.

Complete this interest form if you would like to be notified by email of future classes and events.

Past Events & Materials
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<td>September 2018</td>
<td>Predicting your traits - September 2018 (slides, application)</td>
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<td>August 2018</td>
<td>Inclusion improves medial genetics - August 2018</td>
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<td>July 2018</td>
<td>Who we are and how we got here - a book discussion (Table of Contents and</td>
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<td>links to reviews and materials) - July 2018</td>
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<td>June 2018</td>
<td>DNA: your partner in crime? - June 2018</td>
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<td>May 2018</td>
<td>Pharmacogenomics: How Genes Inform Drug Therapy - May 2018</td>
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<tr>
<td>April 2018</td>
<td>The Human Genome - April 2018</td>
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<td>March 2018</td>
<td>Why the Y? (and not the mtDNA) - March 2018</td>
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<tr>
<td>February 2018</td>
<td>What Are You? Race, Ethnicity and Genetic Testing - February 2018</td>
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<td>January 2018</td>
<td>Changes in the DNA Marketplace - January 2018</td>
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<td>November 2017</td>
<td>Doggy DNA - November 2017</td>
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<td>October 2017</td>
<td>Identifying and Predicting Relationships - October 2017</td>
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<td>September 2017</td>
<td>Reference Pedigree and Shared cM Summary</td>
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<td>August 2017</td>
<td>Family History Revealed: Part 2 - Finding - September 2017</td>
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<td>Family History Revealed: Part 1 - Searching - August 2017</td>
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<td>July 2017</td>
<td>Saigon to Sioux City</td>
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<td>Archaic Ancestry - July 2017</td>
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<td>Genetic Communities™ at AncestryDNA - June 2017</td>
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<td>May 2017</td>
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<td>April 25, 2017</td>
<td>DNA Day 2017 - Personalizing Genetics Education - April 25, 2017</td>
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<td>Dr. Charles Aquadro, Cornell University</td>
<td>Student Genetic Ancestry Testing - Dr. Charles Aquadro, Cornell University</td>
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<td>March 28, 2017</td>
<td>Interpreting SNP Data - March 28, 2017</td>
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<td>February 24, 2017</td>
<td>Ancestry Prediction - February 24, 2017</td>
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<td>January 24, 2017</td>
<td>Exploring the DNA Marketplace - January 24, 2017</td>
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## Presentations

### DNA Connections and Digging for the Root of “Our” - M19 - McAllister Family Tree
- Clan Mcallister of America Gathering, Memphis, TN - August 11, 2018
- Slides

### The Personal Genome: Navigating the DNA Marketplace
- Triangle Club, Iowa City, IA - February 18, 2018
- Full pdf Slides ppt

### Using DNA in Genealogy: Navigating the DNA Marketplace
- Franklin Avenue Library, Des Moines, IA - February 21, 2017
- Slides Handout

### The Personal Genome: The Past Revealed through Genetic Tests
- UIAA Lifelong Learning - November 9, 2016, 6:30 pm
- Slides

## Courses - October 2016

### Genetics for Genealogy: Hands-On Computer Workshops
- Kirkwood Regional Center at The University of Iowa, Room 60
- Getting to Know Your DNA Relatives - October 5 & 6, 2016
  - Guide - SNP Matching
  - Slides - Oct. 5
  - Slides - Oct. 6
  - Shared Matches Worksheets

- Building DNA Families - October 12 & 13, 2016
  - Guide - SNP matching
  - DNA Family Worksheet
  - DNA Summary Spreadsheet
  - Slides - Oct. 12
  - Slides - Oct. 13
Courses - August 8-11, 2016

Genetics for Genealogy: Hands-On Computer Workshops

John and Mary Pappajohn Education Center, Des Moines, IA

Getting to Know Your DNA Relatives - August 8 & 9, 2016

- Guide - SNP Matching
- Concept map
- Slides - Aug. 8
- Slides - Aug. 9

Building DNA Families - August 10 & 11, 2016

- Guide - SNP matching
- DNA Family Worksheet
- DNA Summary Spreadsheet
- Slides - Aug. 10
- Slides - Aug. 11

2016 Spring Conference - Iowa Genealogical Society

DNA: Unlocking the Code (Syllabus)

April 9, 2016 - Des Moines, IA

Session 1 - Navigating the DNA Marketplace (slides)

Session 2 - Connecting Cousins for Genetic Genealogy (slides)

Session 3

- Option A - Getting More from Your SNP Data (Advanced - slides)
- Option B - Small-Group Tutorials (Beginner)

Session 4 - Ancestry Analysis from DNA (slides)
## Genetics for Ancestry, Genealogy and more

**Week 1, Feb. 4 - DNA and the Human Genome**
- DNA & Your Personal Genome
- Potential Consequences of DNA Testing (written for a seminar course)
- Comparison of DNA Testing Options

**Week 2, Feb. 11 - Ancestry Analysis from DNA**
- Genealogy to Trees: Inheritance and Tracing Ancestry Near and Far
- Mitochondrial Eve & Y-Chromosome Adam

**Week 3, Feb. 18 - Connecting Cousins for Genetic Genealogy**
- Autosomal Inheritance
- Genome Comparisons

**Week 4, Feb. 25 - Recreational Genetics**