

# Writing a DNA Proof Argument for Texas Heritage Certificates and the Early Texans DNA Project

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**D**o you qualify for a Texas Heritage Certificate or wish to participate in the Early Texans DNA Project, but your family connection cannot be proven with documentary evidence alone? TxSGS now accepts DNA evidence to prove kinship for these programs, but this evidence must be summarized with a DNA proof argument.

A DNA proof argument serves the same purpose as a birth or death certificate in that it shows how generations are connected and proves that the person on the pedigree chart is actually your ancestor.

Writing a DNA proof argument takes in-depth knowledge of your genealogical problem and the DNA evidence that can resolve it—but putting all that knowledge into a written format does not have to be scary. This article summarizes key requirements required by TxSGS for DNA proof arguments, strategies for meeting those requirements, and resources to learn more about writing DNA proof arguments.

## What Is a DNA Proof Argument?

In *Mastering Genealogical Proof*, Thomas W. Jones defines a proof argument as “a documented narrative explaining why the answer to a complex genealogical problem should be considered acceptable....” A DNA proof argument contains both documentary and DNA evidence in its analysis.

TxSGS has established policies for DNA proof arguments submitted for its programs. These policies can be downloaded from the TxSGS website (<https://www.txsgs.org/programs/heritage-certificates/using-dna-proof-arguments-for-heritage-certificates-and-early-texans-dna-project-members/>). All requirements align with *Genealogy Standards, Second Edition*, published in 2019 by the Board for Certification of Genealogists (BCG) and amended standards (<https://bcgcertification.org/revised-standard-57-oct-2020/>). Standards 51-57, organized as “Using DNA Evidence” within “Chapter 3: Standards for Researching,” are especially relevant for correctly analyzing DNA evidence. Standards 58-61, outlined in “Genealogical Proofs” within “Chapter 4: Standards for

Writing,” provide guidance for crafting an effective proof argument.

## Key Requirements

TxSGS policies for DNA proof arguments provide detailed guidance, but these requirements may seem daunting at first glance. The requirements have important purposes—they ensure DNA analysis is performed accurately, communicated clearly, and that DNA test takers’ privacy is protected. Here’s how you can meet some of these key requirements:

**Narrative Form.** (See *Genealogy Standards*, #60) The DNA proof argument must be in narrative form, meaning paragraphs detailing the problem, examining the evidence, and explaining the conclusion. For a simple problem, the proof argument may be a few pages in length; more complex problems result in much longer documents. Printing results from the DNA testing website is not a sufficient explanation of how this data supports the conclusion. Instead, combine these results with a written explanation of your reasoning.

**Test Takers’ Identities and Privacy.** (See *Genealogy Standards*, #57, revised) The DNA proof argument must identify test takers by their real, full names. If they are identified on the testing website with initials or a pseudonym, messages exchanged on the testing website or an email that confirms their identity must be included with the proof argument. DNA proof arguments are evaluated by a small, limited number of TxSGS DNA committee volunteers who agree to keep all information within these documents confidential.

This type of distribution is considered “private sharing” and does not require test takers to provide written consent. However, if you access the DNA test results of another

person—not your own results—to obtain shared matches, marker or mutation values, or other data, this DNA test taker’s written permission is required. This permission can be submitted with the DNA proof argument in the form of an email or signed letter or form. If you wish to share the DNA proof argument with a larger audience—such as publishing in *Stirpes*, including in a family newsletter, or uploading to an online tree—informed consent is required from all DNA test takers, unless their identities are anonymized. This anonymization will probably extend to parents and sometimes even grandparents in publications but is not allowed or necessary for private sharing with the TxSGS DNA committee.

**Tree Accuracy and Completeness.** (See *Genealogy Standards*, #52) Once DNA test takers’ identities are established, the completeness and accuracy of their family trees must be assessed. Even if test takers provide pedigree charts, the proof argument must confirm these trees are accurate. This requirement can be met by citing documentary evidence for each generational link in these trees. Documents not publicly available (for example, recent birth or death certificates) should be appended to the proof argument.

Fully documenting these family trees for all DNA test takers may result in lengthy and complex source citations. One strategy for meeting this requirement is to create a private online tree, attaching source documents proving kinship for each generation, and granting access to the DNA committee members reviewing the proof argument. The DNA committee will download the online tree and its sources for the program’s long-term storage and documentation. An online tree should only use the names and link documents for deceased generations. Living generations, parents, and possibly grandparents should be anonymized in online trees. The supporting documents should be scanned and submitted with applications to the heritage certificate program or Early Texans DNA Project.

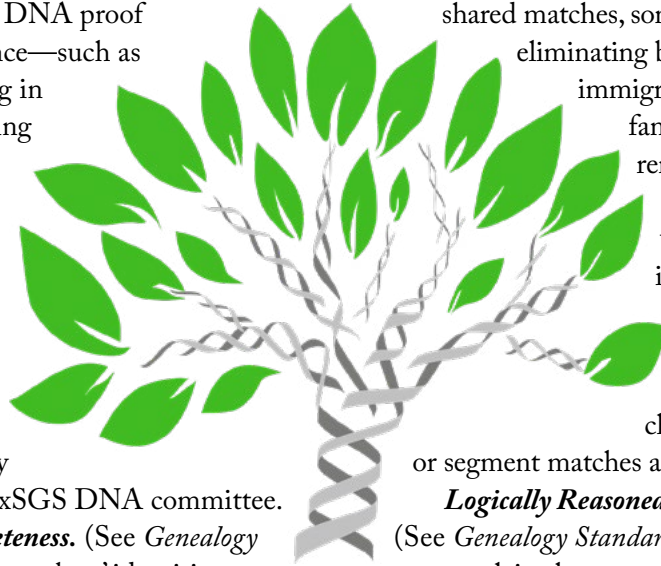
To ensure a genetic relationship is not misattributed to other shared ancestors, all DNA test takers’ family trees should be as complete as possible, free of large gaps and missing family lines. It is recommended all trees be completed to at least two generations beyond the genetic

relationship addressed in the DNA proof argument.

Some analysis techniques mitigate gaps in pedigrees and reduce the chances of unidentified shared ancestors even without fully researching each pedigree back many generations. These include linking to a large number of shared matches, some with deep and complete trees; eliminating branches of trees because of recent immigration to the US or where the family stayed in an area geographically remote from others in a pedigree; and eliminating lines in a pedigree when the type of DNA used is not applicable (such as when using Y-DNA, X-DNA, and mitochondrial DNA). More advanced researchers may also use chromosome mapping, visual phasing, or segment matches and triangulation techniques.

**Logically Reasoned Correlation of DNA Evidence.** (See *Genealogy Standards*, #52) The DNA proof argument must explain the reasons that the DNA evidence supports the genetic relationship. Even though the proof argument is in narrative form, using tables and charts will help communicate this correlation clearly. For autosomal DNA evidence, it may be useful to compare test takers’ amounts of shared DNA with data from the Shared cM Project (<https://dnainter.com/tools/sharedcMv4>) and discuss if the predicted relationships align with your conclusion. If triangulating DNA segments, consider using charts to show the shared chromosomes and segment lengths for each test taker. These charts can be self-created or generated by tools such as DNAPainter or on testing providers’ websites (examples: Family Tree DNA, MyHeritage, 23andMe, and GEDmatch). For Y-DNA and mitochondrial DNA evidence, charts that compare marker values and mutations may also support your conclusions. However, charts alone will not communicate all necessary information. Write paragraphs with these illustrations explaining your findings, reasoning, and conclusions.

**Appropriate Test Types and Adequate Number of Test Takers.** (See *Genealogy Standards*, #51 and 52) Test types—autosomal, Y-DNA, and mitochondrial—should be chosen that provide the best evidence of a genetic relationship. It may even be helpful to use multiple test types to strengthen the argument. The proof argument must show enough DNA test takers were included in the analysis to reach a valid conclusion. These test takers should be from family lines that both prove the relationship and disprove other possible genetic relationships.



**Documentary Evidence.** (See *Genealogy Standards*, #55) In addition to the documentary evidence required for DNA test takers' family trees, the proof argument should include documentary evidence, if it exists, for the genetic relationship. For example, if the proof argument addresses the identify of an adoptee's biological mother and father, documentary evidence showing these individuals residing in the same community near the date of conception of the adoptee would strengthen the proof argument.

## Examples & Resources

As more DNA proof arguments are submitted to the heritage certificate program and DNA test takers consent to sharing their data, TxSGS hopes to publish successful proof arguments in *Stirpes*. Until then, the following resources are helpful examples of DNA proof arguments and resources for learning about how to write them:

*National Genealogical Society Quarterly* has many examples of DNA proof arguments; download a list of suggested examples from the TxSGS website ([https://www.txsgs.org/TXSGS\\_DNA/DNA\\_proof\\_args/DNA\\_proofargs1.htm#samples](https://www.txsgs.org/TXSGS_DNA/DNA_proof_args/DNA_proofargs1.htm#samples)).

Keep in mind these articles are written by the field's foremost professionals and are heavily edited for conciseness. Your proof argument does not have to be as "perfect" as the ones in *NGSQ*, but following these examples in structure and reasoning will not steer you wrong.

*Advanced Genetic Genealogy: Techniques and Case Studies*, edited by Debbie Parker Wayne, contains a chapter by Thomas W. Jones entitled "Writing About, Documenting, and Publishing DNA Test Results" that connects the text's

extensive instruction on DNA analysis with techniques to clearly communicate findings.

*Research Like a Pro Genealogy Podcast* by Family Lockett Genealogists Diana Elder, AG, and Nicole Dyer has three recent episodes discussing DNA proof arguments:

- Episode 127 (14 Dec 2020) - DNA Proof Arguments
- Episode 128 (21 Dec 2020) - DNA Standards
- Episode 129 (28 Dec 2020) - Preparing a Proof Argument for Publication.

These episodes, along with others related to DNA analysis, are the basis for their new book, *Research Like a Pro with DNA*, released 3 March 2021, which contains step-by-step methodology for solving genealogical problems with DNA evidence.

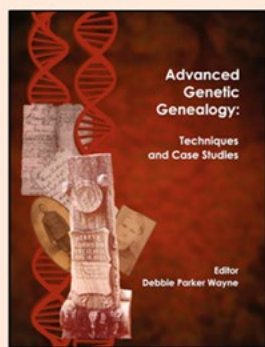
Are you ready to prove your Texas heritage with DNA? TxSGS and the DNA Committee are eager to see more applicants use genetic evidence and DNA proof arguments in proving their ancestors' connection to Texas history.

Don't be intimidated by the terms "proof argument" or "narrative." Just follow these steps to craft your written explanation for the DNA conclusions you reached. Combine that narrative with your "paper trail" of documents proving the rest of your lineage as indicated on the certificate application. Submit the application with supporting documents to the Heritage Certificates Committee by mailing them to the address indicated in the Heritage Certificates application ([https://www.txsgs.org/TSGS/wp-content/uploads/2018/11/tsgs\\_cert\\_app.pdf](https://www.txsgs.org/TSGS/wp-content/uploads/2018/11/tsgs_cert_app.pdf)). Questions should be addressed to [certificates@txsgs.org](mailto:certificates@txsgs.org).

We look forward to hearing from you! ★

### Advanced Genetic Genealogy: Techniques and Case Studies

"... topical chapters ... easy to consult ... written with clarity ..."



**Virtually an advanced DNA course for genealogists. Case studies demonstrate analyzing DNA test results, correlating with documentary evidence, and writing about the findings, all incorporating the standards for using DNA.**

Chapters by leading genealogists: Jim Bartlett, Blaine T. Bettinger, Patricia Lee Hobbs, Melissa A. Johnson, Kathryn J. Johnston, Thomas W. Jones, Debbie Kennett, Michael D. Lacopo, James M. Owston, Kimberly T. Powell, Judy G. Russell, Karen Stanbary, Ann Turner, and Debbie Parker Wayne. Debbie also compiled and edited the entire book.

Links for online orders and reviews at <https://debbiewayne.com/aggtcs/>

**About Jessica Horne Collins:** A former IT professional and technical writer in the oil and gas industry, Jessica now uses her analytical skills to chase ancestors instead of software bugs. She rediscovered genealogy after becoming a stay-at-home mom and has been documenting her family history since 2012. Jessica blogs about her research at [histortree.com](http://histortree.com).