Citing Scientific References

When you write a scientific paper, you should give always cite references so as to give credit to the authors of those references. Whenever you make a statement referring to a scientific fact, principle, or theory, you should include a reference to the source of your information. This handout aims to clarify the procedure for using references in your scientific writing. I think the simplest way to do this is by example, so here is a paragraph that Brandy Russell (a former 199L instructor) wrote:

The study of protein folding is an interesting intellectual challenge, but also has some practical applications. With the sequencing of the human genome [1,2], the pressure on the scientific community to characterize the ~30,000 human gene products is mounting. A thorough understanding of protein folding will undoubtedly lead to better structure prediction. In addition, protein folding and misfolding has implications for human health. Many diseases are characterized or caused by the failure of proteins to fold correctly. For example, mutations causing misfolding of cystic fibrosis transmembrane conductance regulator protein are believed to be the cause of cystic fibrosis [3]. Other diseases associated with misfolded proteins are Creutzfeld-Jacob’s disease, Parkinson’s disease, and Alzheimer’s disease, in which the misfolding leads to the formation of deposits of aggregated protein in the body [3-5].


Note that in the paragraph above, Dr. Russell did not include references for the general statements she made (although she could have, and another writer might have), but she did back up each general statement with a more specific one, and for these, she did include references. We could break it down like this:

**Thesis statement:** studying protein folding is important and immediately relevant

**Example 1:** structure prediction

**Specific relevance:** human gene products (refs 1,2)

**Example 2:** misfolding and human health

**Specific relevance:** cystic fibrosis, Alzheimer’s, Parkinson’s, and Creutzfeld-Jacob’s disease (refs 3-5)

Knowing exactly when to use a reference comes with practice and with reading other people’s papers. For the purposes of this class, just try your best and we will try our best to give you good feedback.
You may notice that in the reference list above, Dr. Russell used abbreviations for the journal names. She didn’t just make up these abbreviations—there is an accepted abbreviation for each journal title that should be used when referencing. For example, in reference 3, the journal is *Trends in Biochemical Sciences*, which is colloquially referred to as *TIBS*, but neither of these is correct to use in the reference. In the field of chemistry, at least, these abbreviations are made according to the *Chemical Abstracts Service Source Index* (CASSI). You can refer to CASSI or to a style guide (*The ACS Style Guide*, for example, contains a list of over 1000 CASSI abbreviations) for correct abbreviations.

Each scientific journal has its own specific requirements for what reference format should be used. Some may list the references in footnotes, others at the end of the paper; some may number them in the order to which they are referred, others may list them alphabetically by author. Some require the inclusion of titles, others do not; some place the year in parentheses after the authors, others print it in bold after the journal name. A good deal of detailed information can be found in various style guides. You can find these in the library.

**Requirements for references in Chem 199L assignments**

For the purposes of this class, we will ask you to cite references by following the format required by *Proceedings of the National Academy of Sciences (PNAS)*. The instructions are reproduced below (with my comments added).

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**Proceedings of the National Academy of Sciences style for references**

(https://www.pnas.org/misc/iforc.shtml)

References must be in PNAS style. References should be cited in numerical order as they appear in text. Because tables and figures will be inserted in the text where first cited, references in these sections should be numbered accordingly. All authors (unless there are 10 or more) should be named in the citation. If 10 or more, list the first 10 names followed by *et al.*

Databases are cited in the text or as footnotes.

The corresponding author must be prepared to provide a signed authorization for the citation of unpublished data and personal communications.

**Journal articles are cited as follows:**


For correct abbreviations of journal titles, refer to *Chemical Abstracts Service Source Index* (CASSI).

**Articles or chapters in books are cited as follows:**

| Reference number. Author of chapter or author of book. (Year) Book title, editors (Publisher, City), pages. |