

Special Chemistry Seminar
October 9, 2017
4:00 PM, in SGM 460

Critical Reading and Analysis Skills via a Proper Scientific Method

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Abstract

This seminar will address the question of how to best—and most efficiently—critically read and analyze the relevant, ever-increasing literature? Central, underlying questions that will be addressed include: what is the most efficient scientific method? Is there more than one, or only one, true “scientific method”? How does any preferred scientific method impact critical reading and analysis? And what, then, is the most efficient scientific method for one’s own research? We all know what the “scientific method” more or less consists of, but do we all know what is *the most efficient scientific method, and do we all practice that method routinely?*

The talk will build from two classic papers that are among Prof. Finke’s all-time favorites (Platt, J. R. “Strong Inference”, *Science*, **1964**, *146*, 347, and Chamberlin, T. C. “The Method of Multiple Working Hypotheses”, *Science* **1880** (old series), *15*, 92-96; reprinted *Science* **1965**, *148*, 754-759; also in *J. Geology* **1897**, *5*, 837-848). *These two, Platt and Chamberlin papers are strongly recommended pre-reading.* To get the most out of this seminar, attendees should download and read both of these papers beforehand. They are available at <http://science.sciencemag.org/> and can be downloaded for free through the USC library system (<https://libraries.usc.edu/>).

This lecture’s origins date back to nearly 25 years ago and the “Cold Fusion” fiasco, specifically Professor Finke’s concern then with what had gone wrong, scientifically, leading to the claim of “Cold Fusion”. Since that time, Professor Finke has become increasingly concerned with the amount of literature that is unreliable, improperly performed science. This lecture repeats the lecture that has been refined and offered yearly since 1993 to CSU senior chemistry undergraduates, as well as to incoming CSU chemistry graduate students, and more recently to audiences at 6 universities. Please come, participate, and help make a success Prof. Finke’s efforts to discuss these important topics with a University of Southern California audience!

