

# Core Skills For Scientists

## The Craft of Scientific Writing

Beginner and Intermediate Level

### Course Synopsis

This course is based on the book *Scientific Writing 2.0: a Reader and Writer's guide*. The course illustrates how to bring clarity, conciseness, organization, and fluidity in writing through many in-class exercises. It identifies the role, content, and writing style of the influential parts of a paper that create a reviewer/editor's first impression: title, abstract, introduction, visuals, structure, conclusions and references. The course includes a human factor component to describe how human physiology and reader objectives affect the efficiency of reading. Based on reader feedback, it reveals writing practices that are reader-unfriendly and disrupt text fluidity.

### Target Participants

PhD students, post-doctorates, and junior faculty with little to no experience with writing professionally in English and with writing substantive text published in English-language scientific journals and publications.

### Course structure

Module 1: The "Scientific Writing Style" – its characteristics, their strengths and limitations.

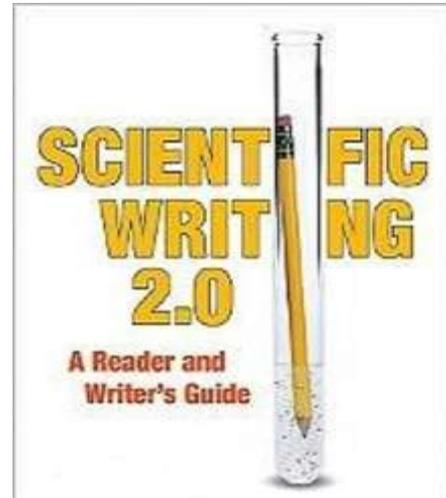
Module 2: Write to be read – a reader and reviewer perspective. How avoid the writing pitfalls that make memory-bound, attention-bound, time bound and knowledge-bound reader stumble.

Module 3: Text fluidity. How focusing on the reader enables the writer to write sentences that are fluid via specific grammatical constructs and the anticipation/creation of reader expectations.

Module 4: The *Why*, the *How* and the *When* of a papers' title, abstract, introduction, references, body (headings, subheadings, tables and graphs), conclusion, and references.

### Text samples

Participants bring to the course a published paper they have written. If they have never written a paper they bring a published paper they have read and are familiar with. The paper should have informative headings and subheadings, not just the bland IMRAD structure (introduction, methodology, results, and discussion). It should be 6 to 12 pages in length, but should not be a review paper or a short letter. At the end of the course, the participant is able to identify efficient and deficient parts in the paper. Each day ends with an iBook-created MCQ for all participants (projected from an iPad).



### Methodology

The class is mostly interactive. The characteristics of the scientific writing style (module 1) and the fluidity techniques (module 3) are discovered collectively through examples. The participants role play readers and reviewers (module 2). Module 4 is more didactic (*why* and *when*) although it includes teamwork (*How*) (groups of 2).

### Duration

Two days.

### Your Trainer

Jean-Luc Lebrun has managed research programs while working at Apple Computer in its Advanced Technology Research group for over ten years. He subsequently invested his energy in the commercialization of research. For the past twelve years, he has been conducting the scientific writing course at the following A\*Star life and engineering science research institutes: BII, BSF, BTI, CMM, DSI, GIS, 12R, IBN, ICES, IHPC, IMB, IMCB, IME, IMRE, NMC, SBIC, SICS, SIMTECH, and SSCC. He also teaches in two Singapore universities (NUS, SMU), medical research Institutes (NCCS, NUHS), and in France, Italy, and Finland universities or European Authorities.

\* Agency for Science, Technology And Research, Singapore