



Scientific writing for PhD students

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The main aim of *Scientific writing course* is to learn how to express your own ideas and discuss those of others in writing. Writing for peer-reviewed publication is one of the most important skills that young scientists and engineers should possess during PhD studies. However, many scientists and engineers do not consider themselves good writers, so how can the average scientist write a good scientific paper? The good news is you do not have to be a good writer to write a good science paper, but you do have to be a careful writer. And while the creativity that often marks good science will sometimes spill over into the writing about that science, in general, good science writing does not require creative writing. In particular, writing for a peer-reviewed science or engineering journal requires learning and executing a specific formula for presenting scientific work. Thus, I would like to present useful tips how to prepare a good scientific paper. Although I am a relatively 'fresh' doctor, I gained a knowledge how to write properly. During last 12 months I have prepared 10 manuscripts and all of them were published in top journals. I have spent three long years as a PhD student of Imperial College London and I really understand how students are struggling with scientific writing. Now, I am a supervisor of Master and PhD students from both, IPPT PAN and Imperial College London. I am also reviewing papers for six different journals including Materials, Coatings and Metals. I believe that I could improve the scientific outcome of IPPT PAN PhD students by providing them some guideline how to be a good writer.

The course would include:

1. Introduction to scientific writing
 - 1.1 why write and publish a paper?
 - 1.2 the literature search
 - 1.3 plan and execute research with publication in mind
 - 1.4 what an editor looks for?
2. Structure and organization of a scientific paper
 - 2.1 the standard structure of a scientific paper
 - 2.2 abstract
 - 2.3 introduction
 - 2.3 methods
 - 2.4 results and discussion
 - 2.5 conclusions
3. Proper presentation of figures and tables
 - 3.1 the goals of using figures
 - 3.2 errors in graphs
 - 3.3 graphical integrity
4. Working on your own paper - project

The Scientific writing course will start with lectures (3 blocks) and end with a personalized project. During the project time, students will join 1:1 consultations with tutor. The course will enable students to:

- identify the main issues related to the scientific writing
- improve their writing skills
- work on their own paper independently in more efficient way.

The total number of lecture hours: 4 hours, workshops/self-teaching: 6 hours, direct tutoring and 1:1 consultations: 15 hours. Total: 25 hours.

ECTS: 1