

# Authors' contribution: School-specific guidelines

## ARTS

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In case of co-authored publications the doctoral student's independent contribution to them must be demonstrated. If the contribution is not demonstrated in the publication, an account of the contribution of the doctoral student and of the other authors must be given in the summary. The student must ask and receive the approval of the other authors for the account given.

## BIZ

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For a clarification of the authors' responsibilities and contributions in essay-based thesis, BIZ contribution model available at [Doctoral student forms | Aalto University](#).

## CHEM

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Author's contribution's [style model](#) for CHEM.

- Use initials for each author, not full names at Authors contribution page. Also note that publishers such as [Elsevier have similar instructions](#).
- How to write Authors contribution for monograph thesis: start with “Following persons have contributed to this work” then list these contributors with affiliations. Roles: clear explanation of how each one has contributed.
- Each contributor must be mentioned with name, use initials; and their contribution for the paper.
- If needed, a clarification of subcontracting used for the thesis work

### Article-based thesis

In an article-based thesis containing publications with joint authorship, the doctoral student's contribution needs to be clearly explained. It must be evident that each publication included in the thesis contains **sufficient independent contribution by the doctoral student**. To show this, the student must write an author's contribution description, explaining what the author of the thesis has contributed with in each of the publications. If the co-authors have had a significant role in contributing to the publications, it may be beneficial to briefly describe their contribution as well.

This author's contribution description is then placed in the beginning of the thesis manuscript with the list of publications. This description is also submitted with the pre-examination

application as a separate PDF file which has been checked **by the supervising professor and approved by the co-authors**.

**Contribution types are for example** idea generation, the research design, collection of data and research material, experiments, management of data and research material, data analysis, verification and analysis of findings, visualization of results, writing of the text of the publication, and editing the text at different stages.

### Examples of author's contribution descriptions:

The author = doctoral student A, B, C = co-authors

**Example 1** (the candidate is the first author; second author is the supervising professor)

The author implemented all simulations and measurements and wrote the entirety of the paper. A supervised this research.

**Example 2** (first author of three or more)

The original research idea came from A. The author designed and ran the experiments and analyzed the results. The author wrote about 90% of the paper with the support of the co-authors.

**Example 3** (second author of two)

The author and B equally contributed to the research and writing of the paper.

**Example 4** (one of many authors; co-author C will include the same paper in a thesis)

The author and co-authors planned this study. The author conducted all the work described in

Sections 3 and 4 and wrote them, except for Section 4.3, which was written by C. C performed the theoretical analysis.

**Example 5** (the author is the N<sup>th</sup> author among many)

The author planned and conducted the validation study. The author participated in the writing of Section 4 and produced Figures 5 and 6.

**Monograph**

In a monograph, the contribution of the doctoral student shall be explained in the beginning of the thesis manuscript, preferably in the introduction part. If the other members of the research group have had a significant role in the research conducted, their contributions may be briefly described as well. The author's contribution description is also submitted with the pre-examination application as a separate PDF file which has been **checked by the supervising professor and approved by the co-researchers**.

**ENG**

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In order to determine the doctoral student's independent contribution to the research and writing work of the thesis, the doctoral student must prepare an author's contribution.

In article-based theses containing articles with joint authorship, the doctoral student's contribution needs to be clearly explained. This explanation should be placed in the beginning of the manuscript with the list of publications. If the co-authors have had a significant role in contributing to the articles it may be beneficial to briefly describe their contribution as well. The author's contribution shall be **checked by the supervising professor** and approved by the other authors.

In monographs, the contribution of the doctoral student shall be explained in the beginning of the manuscript, preferably in the introduction part. If the other members of the research group have had a significant role in the research conducted, it may be beneficial to briefly describe their contribution as well. The author's contribution shall be checked and **signed by the supervising professor** and approved by the other authors.

**Contribution of the author in article-based and essay-based doctoral theses**

In order to determine the doctoral student's independent contribution to any co-authored publication in the doctoral thesis manuscript, the doctoral student must prepare an author's contribution in collaboration with the supervising professor. Author's contribution precisely outlines the extent of the contribution and roles of all authors including the doctoral student and all co-authors of the publications. Doctoral students are recommended to submit this description to the co-authors.

Examples of author's contribution by departments are described below. Examples follow the traditions and practices of the different research fields in the School of Science. The doctoral students are advised to discuss the suitable examples as well as the exact wording with the supervising professor.

These guidelines will apply to all doctoral thesis manuscripts sent for pre-examination from 1 August 2020 (decision of the Doctoral Programme Committee 16 June 2020).

DC = doctoral student

A-H = co-authors

**Department of Applied Physics**

DC, A and B conceived the experiment. C, D, and E carried out the sample growth. DC did the experiments. DC and A analyzed the experimental data. F and G planned and carried out the quantum calculations. B and H developed the theoretical model and established its implications. H carried out the numerical calculations. DC, A and B wrote the manuscript with input from all coauthors.

**Department of Computer Science****Example 1**

The main authors of the article were A and B. A came up with the main idea and designed the algorithms. A together with B carried out the theoretical analysis of the algorithms. DC implemented the software and ran the experiments. B was responsible for the statistical analysis of the data from the experiments. The contribution of DC to the writing of the paper was about 20 per cent.

**Example 2**

DC is the main author of the paper. DC came up with the main insights in the paper, did all of the writing, and implemented about 30 percent of the program code. A contributed

to the theoretical analysis and wrote all of the proofs. B implemented the rest (about 70 per cent) of the program code for the experiments.

### **Department of Industrial Engineering and Management**

DC developed and explicated the theoretical contributions, and wrote the article. Based on the original idea of the DC, A conducted the data collection and built the simulation model. B instructed data collection and modeling and supported the reporting of the results. C provided comments and suggestions for writing of the article.

### **Department of Mathematics and Systems Analysis**

#### **Example 1**

DC and A proved the main result of the paper and wrote that up; B proposed the problem and wrote the introduction.

#### **Example 2**

All co-authors contributed equally to all parts of the paper.

### **Department of Neuroscience and Biomedical Engineering**

DC, A and B conceived the experiment. C, D, and E prepared the stimuli and experimental paradigm. DC did the experiments. DC and A analyzed the experimental data. F and G planned and carried out the data analyses. B and H interpreted the analysis results. DC, A and B wrote the initial version of the manuscript with input from all coauthors. DC and A wrote the final version of the manuscript with approval of all coauthors.

### **Contribution of the author in monographs**

Doctoral student's own contribution in the monograph shall be explained in the beginning of the doctoral thesis manuscript, preferably in the introduction. If i.e. other members of the research group have had significant role in the research conducted, their contribution should be described as well. The doctoral students are advised to discuss the contribution as well as the exact wording with the supervising professor.