

Guidelines for a PhD-by-publication in Electrical and Electronic Engineering at Stellenbosch University

The goal of any dissertation should be to demonstrate a candidate's ability to conduct independent, original research and to present it in a scholarly manner. The dissertation should be presented as a single cohesive narrative, regardless of its format.

In a PhD-by-publication, content chapters are replaced by journal or conference papers that have either been published, submitted, or are in a final draft form. Additions are required to present the combined work as a single coherent research narrative. The following are *guidelines* for the structure of a dissertation following the PhD-by-publication format in our department.

- An introductory chapter provides the necessary background, research context and motivation for the work. It should discuss the overarching research question, the contributions of the work, and briefly state the main findings. It should be used to help the reader see the narrative thread connecting the different publications.
- A self-contained background chapter should contextualise the work. It should discuss relevant literature and the methodological framework used. There might be overlap between this chapter and some sections of the individual publication-based chapters, but this is acceptable; this chapter will be more comprehensive than the corresponding parts of the publications. The chapter provides the context for the overall research narrative.
- Publication-based chapters are inserted as they appear in the journal or conference proceedings. Each chapter must be introduced by a short section discussing the context of the publication within the dissertation, the status of the publication (published, accepted, submitted or draft), and the contributions of the candidate in the case of multiple authors.
- In some cases, it might be useful to also add a concluding section at the end of the chapter after the publication. This is useful when there isn't a logical flow from one publication to the next, to explain any changes that were made after publication, or to provide additional analysis or results to tie chapters together. See ([Nortje 2024](#)) for an example.
- It is recommended that most of the chapters are standard journal publications in high-quality journals.
- Shorter conference papers or journal letters can also be included as chapters. These will have longer contextualising sections before and after the publication. Alternatively, these can be included as chapters following the format of a standard monograph dissertation. We do not recommend that a PhD-by-publication consist solely of these types of shorter publications.
- A concluding chapter should tie the narrative together. It should discuss the impact of the work, its strengths and limitations, and future research directions.