How To Make A Thesis Following The Guideline With More Text To Have Two Lines



by

A Good Name

Submitted for the degree of

Doctor of Philosophy

SOME WEIRD INSTITUTE NO ONE EVER HEARD ABOUT

SCHOOL OF LATEX AND WRITING

HERIOT-WATT UNIVERSITY

September 2042

The copyright in this thesis is owned by the author. Any quotation from the thesis or use of any of the information contained in it must acknowledge this thesis as the source of the quotation or information.

Abstract

In accordance with the Academic Regulations the thesis must contain an abstract preferably not exceeding 200 words, bound in to precede the thesis. The abstract should appear on its own, on a single page. The format should be the same as that of the main text. The abstract should provide a synopsis of the thesis and shall state clearly the nature and scope of the research undertaken and of the contribution made to the knowledge of the subject treated. There should be a brief statement of the method of investigation where appropriate, an outline of the major divisions or principal arguments of the work and a summary of any conclusions reached. The abstract must follow the Title Page.

Dedication

If a dedication is included then it should be immediately after the Abstract page.

I don’t what it is actually.

Acknowledgements

I wanna thanks all coffee and tea manufacturers and sellers that made the completion of this work possible.

Research Thesis Submission

Please note this form should be bound into the submitted thesis.

Name:	*Someone*		
School:	School of Latex and Writing		
Version: *(i.e. First, Resubmission, Final)*	Final I guess	Degree Sought:	*PhD (please give it to me, I need it)*

Declaration

In accordance with the appropriate regulations I hereby submit my thesis and I declare that:

1. The thesis embodies the results of my own work and has been composed by myself
2. Where appropriate, I have made acknowledgement of the work of others
3. The thesis is the correct version for submission and is the same version as any electronic versions submitted*.
4. My thesis for the award referred to, deposited in the Heriot-Watt University Library, should be made available for loan or photocopying and be available via the Institutional Repository, subject to such conditions as the Librarian may require
5. I understand that as a student of the University I am required to abide by the Regulations of the University and to conform to its discipline.
6. I confirm that the thesis has been verified against plagiarism via an approved plagiarism detection application e.g. Turnitin.

ONLY for submissions including published works

Please note you are only required to complete the Inclusion of Published Works Form (page 2) if your thesis contains published works)

7. Where the thesis contains published outputs under Regulation 6 (9.1.2) or Regulation 43 (9) these are accompanied by a critical review which accurately describes my contribution to the research and, for multi-author outputs, a signed declaration indicating the contribution of each author (complete)
8. Inclusion of published outputs under Regulation 6 (9.1.2) or Regulation 43 (9) shall not constitute plagiarism.

* *Please note that it is the responsibility of the candidate to ensure that the correct version of the thesis is submitted.*

Signature of Candidate:	_____YesIAmAwesome_____	Date:	2042/04/02

Submission

Submitted By *(name in capitals):*	Someone (he is awesome)
Signature of Individual Submitting:	_____YesIAmAwesome_____
Date Submitted:	2042/04/02

For Completion in the Student Service Centre (SSC)

Limited Access	Requested	Yes		No		Approved	Yes		No	
E-thesis Submitted ***(mandatory for final theses)***										
Received in the SSC by *(name in capitals):*						Date:				

Table of Contents

1 Introduction **1**
1.1 Start . . . 1
1.1.1 Basic Info . . . 1
1.1.2 Equation . . . 1
1.1.3 Tables . . . 3
1.1.4 Figures . . . 3

2 Some Very Informative Text **8**
2.1 Information . . . 8
2.1.1 This is a test . . . 8

3 Conclusion **9**
3.1 This is the end . . . 9

A This is an appendix **10**

B Publication 1 **11**

References **12**

Bibliography **13**

List of Tables

1.1 Example table 3

Figure table

1.1 SPSO 06/07 movement 4
1.2 SPSO 2011 movement 5
1.3 Sideways picture 6
1.4 How to put a figure in landscape instead 7

Glossary

GCD Greatest Common Divisor.

LCM Least Common Multiple.

List of Publications

F. Awesome. *Frank*. 2005.

F. Awesome. *frank, but lowercase*. 2006.

Chapter 1

Introduction

Contents

1.1 Start 1

1.1.1 Basic Info 1

1.1.2 Equation 1

1.1.3 Tables 3

1.1.4 Figures 3

1.1 Start

1.1.1 Basic Info

This Is A Subsubsection

Subsubsection should not be numbered, nor indicated in the table of contents. The config options are tocdepth and secnumdepth, you can find them in the config file.

Paragraph Title I studied [1] and that was fun. I also looked at [2] [1].

I also wrote this [3]. But the most fun thing was reading [4]

URI should be included like this https://github.com/jackred/Heriot_Watt_Thesis_Template.

1.1.2 Equation

Equations placed on separate lines from the text should be numbered whether or not they are referred to in the text. Numbering should appear in round brackets at the right hand side of the page and be ordered consecutively either throughout the thesis as (1) etc, or in each chapter (1.1) etc. Equations should be referred to in the text as equation(1) etc.

[1] you should do footnotes like this. More details here https://www.overleaf.com/learn/latex/Footnotes

Believe it or not, this is the equation for the canonical version of PSO, using the inertia factor, first proposed in 1998.

$$V_i = wV_i + c_1 * U(0,1) * (P_i - X_i) + c_2 * U(0,1) * (L_i - X_i) \tag{1.1}$$

And here you have the constriction factor equation, which have the same role as the inertia factor defined in equation (1.1), but is used differently. Proposed in 1999.

$$\chi = \frac{2}{|2 - \phi - \sqrt{\phi^2 - 4\phi}|} \tag{1.2}$$

Was I just lazy and copied the equation of my Master Thesis? Not at all. Look, here is the gravity equation for PSO2011, proposed, as the name suggest, in 2011.

$$G_i = \frac{X_i + (X_i + U(0,1)c(P_i - X_i)) + (X_i + U(0,1)c(L_i - X_i))}{3} \tag{1.3}$$

1.1.3 Tables

Tables, figures etc. shall be numbered either consecutively throughout the thesis–Table 1, Figure 1 etc., or within individual chapters Chapter –Table1.1, but not within sections or subsections. With in the text tables should be referred to as table 1etc.

D10	min	max	median	std	average
f1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
f3	4.40E-02	1.37E+08	3.49E+05	2.18E+07	6.46E+06
f8	2.01E+01	2.05E+01	2.03E+01	8.44E-02	2.03E+01
f9	1.51E+00	6.96E+00	4.54E+00	1.21E+00	4.53E+00
f15	1.41E+02	1.04E+03	7.16E+02	2.26E+02	6.64E+02
f20	1.26E+00	3.82E+00	3.02E+00	5.67E-01	2.93E+00
f21	1.00E+02	4.00E+02	4.00E+02	1.05E+02	3.33E+02
f22	8.79E+01	8.30E+02	4.83E+02	2.00E+02	4.91E+02
f25	2.04E+02	2.23E+02	2.15E+02	3.73E+00	2.15E+02

Table 1.1: Summary Statistics for the 10 dimensional case of PSO 2007 with a ring neighborhood of 4. I know you don't know what it means. But at least you have an example of a table. More info here https://www.overleaf.com/learn/latex/Tables

1.1.4 Figures

Because I think you are very interested in PSO (or I am just very lazy) here is a nice figure explaining how PSO 2006 works.

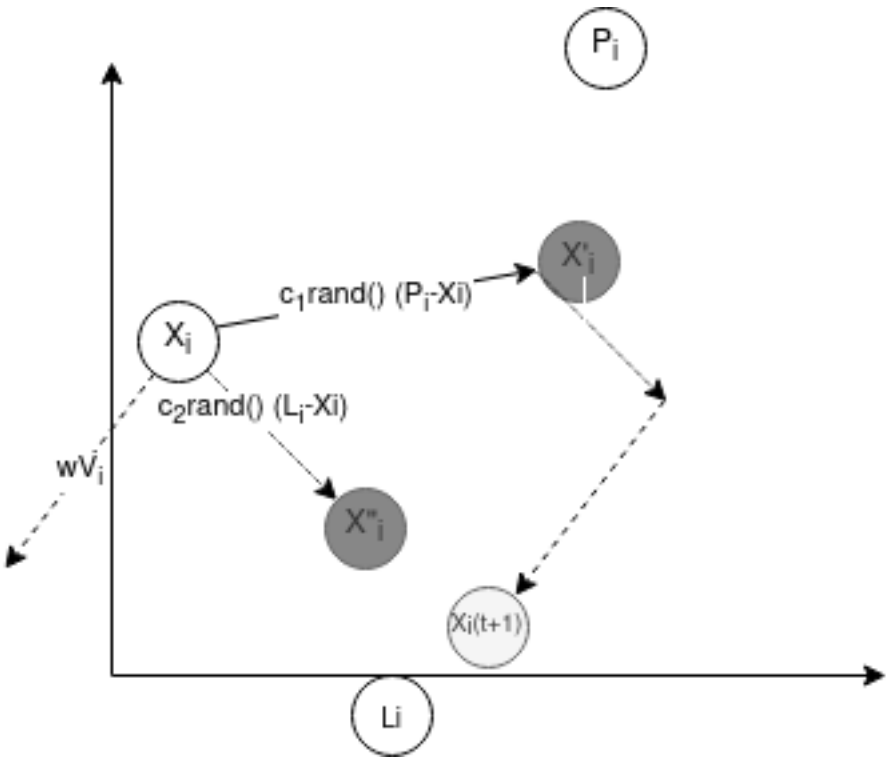


Figure 1.1: SPSO 2006 and 2007 particle's position update. X_i' and $X"_i$ are temporary point to explain the second and third terms of equation 1.1.

And while we are at it, look at the 2011 version, that you can't probably understand without the context, but eh, it's a figure to illustrate how to put some. We can see it is different than figure 1.1

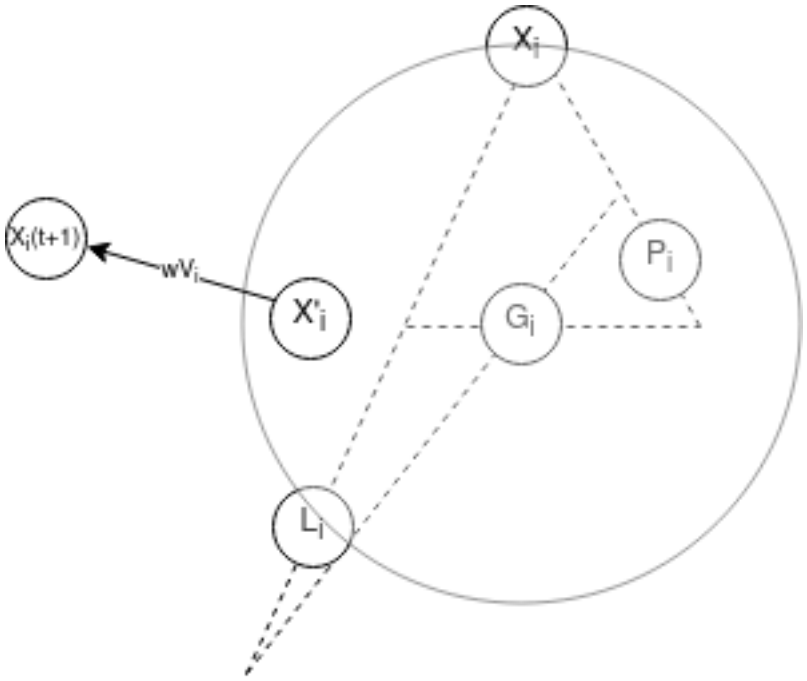


Figure 1.2: SPSO 2011 particle's position update. X_i' is generated inside the hyper-sphere of center G_i.

I placed my figure right after the text, but you will usually use other option to place them, such as *htpb*. More info https://www.overleaf.com/learn/latex/Positioning_of_Figures.

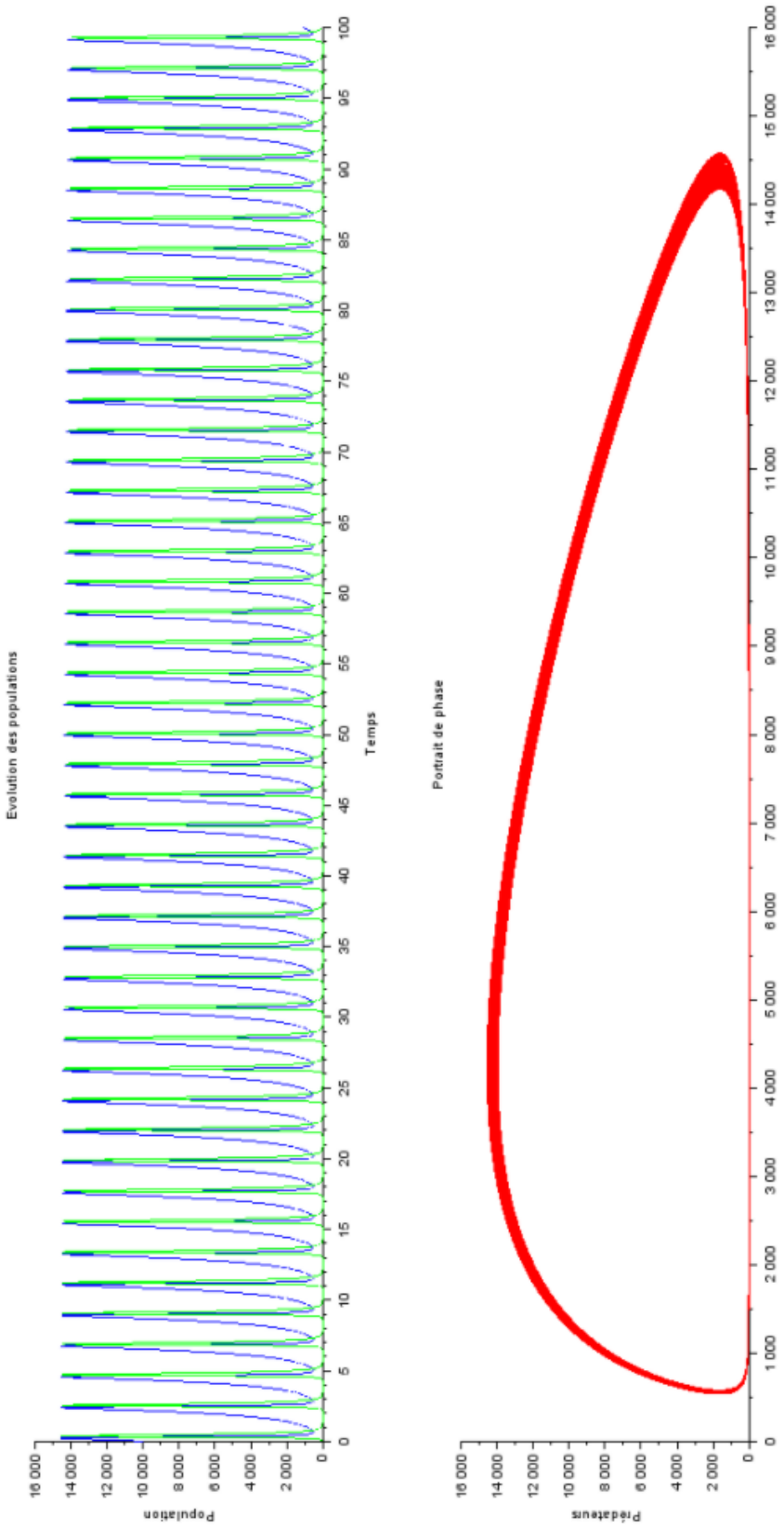


Figure 1.3: How to put a very big picture sideways. It is in French but who cares?

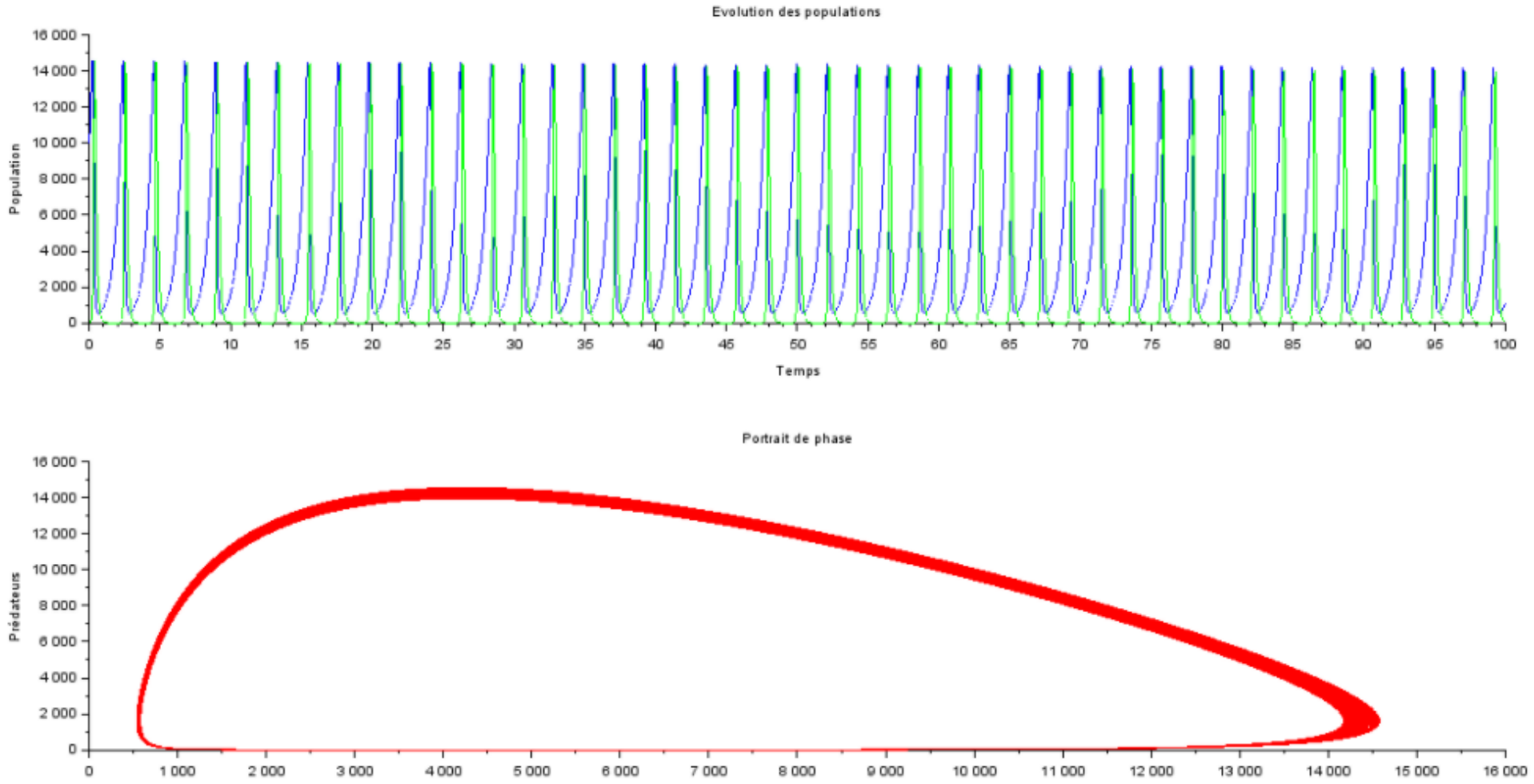


Figure 1.4: How to put a figure in landscape instead

Chapter 2

Some Very Informative Text

Contents

2.1 Information 8

2.1.1 This is a test 8

2.1 Information

2.1.1 This is a test

Let's just have the equation of Charged PSO to see how equation are numbered through Chapter (spoil, per chapter):

$$V_i = wV_i + c_1 * U(0,1) * (P_i - X_i) + c_2 * U(0,1) * (L_i - X_i) + a_i \tag{2.1}$$

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Congue eu consequat ac felis donec et odio pellentesque. Sem fringilla ut morbi tincidunt augue interdum. Imperdiet massa tincidunt nunc pulvinar sapien et ligula. Urna condimentum mattis pellentesque id nibh tortor. Fringilla est ullamcorper eget nulla facilisi etiam dignissim. Vel turpis nunc eget lorem dolor sed viverra ipsum nunc. Volutpat est velit egestas dui id ornare arcu odio. Pretium nibh ipsum consequat nisl vel pretium lectus. Aenean et tortor at risus viverra adipiscing at. Vivamus arcu felis bibendum ut tristique et egestas quis. Sollicitudin aliquam ultrices sagittis orci. Vulputate sapien nec sagittis aliquam malesuada bibendum.

Chapter 3

Conclusion

Contents

3.1 This is the end 9

3.1 This is the end

You have to finish your Thesis. I know it's sad, but all things come to end.

Appendix A

This is an appendix

Appendices, labelled A, B etc., should be treated as additional chapters and should normally follow the main text. Appendices may consist of supporting material of considerable length or of lists, documents, commentaries, tables or other evidence that if included in the main text,would interrupt its flow. The style of appendices must be consistent with the style of the main text. Long appendices may be divided into sections, labelled as Appendix A.1 etc., with corresponding subsection numbering, which must be entered in the table of contents. Alternatively, short appendices may be attached to individual chapters, as an extra section with a heading of style 3.7 Appendix

Publication number 1

Hey I am a very scientific paper wrote by the thesis author.

If publications of the author are to be bound into the thesis then they should appear after the Appendices and before the list of references, as if they were additional Appendices, and so-cited in the Contents list.

References

[1] W. Kor. *Poule*. 2001.

[2] F. Ovalie. *Robert*. 2005.

[3] F. Awesome. *Frank*. 2005.

[4] B. Anglois. *This is a paper*. 2005.

Bibliography

C. Cuthor. *Charlie*. 2003.

E. Absol. *Danger*. 2005.

S. Andre. *Orange*. 2003.

F. Awesome. *frank, but lowercase*. 2006.