



ZÜRICH UNIVERSITY OF APPLIED SCIENCES

PROJECT THESIS

Thesis Title

Author:
Nicoló TROPEANO

Supervisor:
Michael WÜTHRICH

*A thesis submitted in fulfillment of the requirements
for the degree of Master of Science
in the*

Additive Manufacturing
Institute for Mechatronic Systems

September 19, 2022

Declaration of Authorship

COMMENT THIS SECTION IF THE ORIGINAL COPY OF THE ZHAW DECLARATION OF ORIGINALITY IS USED IN THE APPENDIX.

I, Nicolás TROPEANO, declare that this thesis titled, "Thesis Title" and the work presented in it are my own. I confirm that:

- This work was done wholly or mainly while in candidature for a research degree at this University.
- Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated.
- Where I have consulted the published work of others, this is always clearly attributed.
- Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work.
- I have acknowledged all main sources of help.
- Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself.

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“You can’t connect the dots looking forward; you can only connect them looking backwards. So you have to trust that the dots will somehow connect in your future. You have to trust in something – your gut, destiny, life, karma, whatever. Because believing that the dots will connect down the road will give you the confidence to follow your heart even when it leads you off the well worn path; and that will make all the difference. ”

Steve Jobs

(Stanford commencement speech, June 2005)

ZURICH UNIVERSITY OF APPLIED SCIENCES

Abstract

Life Sciences and Facility Management
Institute for Mechatronic Systems

Master of Science

Thesis Title

by Nicoló TROPEANO

The Thesis Abstract is written here (and usually kept to just this page). The page is kept centered vertically so can expand into the blank space above the title too. . .

Structure it the in the following way: context, Need (what we have), Need (what we want), task, object of the document, findings, Conclusion and perspectives.

ZÜRCHER HOCHSCHULE FÜR ANGEWANDTE WISSENSCHAFTEN

Zusammenfassung

Life Sciences and Facility Management
Institute for Mechatronic Systems

Master of Science

Thesis Title

von Nicolás TROPEANO

Die Zusammenfassung der Dissertation wird hier geschrieben (und normalerweise nur auf dieser Seite gehalten). Die Seite wird vertikal zentriert, so dass sie sich auch in den leeren Raum über dem Titel ausdehnen kann...

Strukturiere sie wie folgt: Kontext, Bedarf (was wir haben), Bedarf (was wir wollen), Aufgabe, Gegenstand des Dokuments, Ergebnisse, Schlussfolgerung und Perspektiven.

Acknowledgements

The acknowledgments and the people to thank go here, don't forget to include your project advisor...

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List of Abbreviations

LAH List Abbreviations **Here**
WSF What (it) Stands For

Physical Constants

Speed of Light $c_0 = 2.997\,924\,58 \times 10^8 \text{ m s}^{-1}$ (exact)

List of Symbols

a	distance	m
P	power	W (J s ⁻¹)
ω	angular frequency	rad

For/Dedicated to/To my...

Preface

Explain the motivation for the topic in general. Go through each chapter and explain how they contribute to your research question. Check the thesis of Johannes John Carel Kuiper for a good example preface: <https://dspace.library.uu.nl/bitstream/handle/1874/90/full.pdf?sequence=2&isAllowed=y>

Chapter 1

Chapter Title Here

1.1 Welcome and Thank You

1.1.1 Tables

TABLE 1.1: The methods and Effects of Pre-Heating Treatments reported in different articles

Article	Material	Pre-Heating Method	Deposition Temperature
[kishore2017infrared]	ABS with 20 wt.% short carbon fibre	Strip IR lamps (2x500W)	215°C
[du2016improved]	ABS	IR fiber laser (2x1.75W)	N/A
[ravi2016process]	black ABS	near IR 802nm laser (2W)	230°C
[kishore2019effect]	ABS with 20 wt. % short carbon fibre	Strip IR lamp(1kW)	215°C
[ravoori2019nozzle]	Radiation heating with metal block	N/A	205 °C
[lee2021mechanical]	PLA and PC	Halogen Spot Heaters (2x75W)	200°C and 270°C respectively
[andreu2022hybrid]	black PLA	Hot Rollers with heating element (40W)	215°C
[sabyrov2020enhancing]	PLA	laser diode (5W)	210°C

Appendix A

Frequently Asked Questions

A.1 How do I change the colors of links?

The color of links can be changed to your liking using:

```
\hypersetup{urlcolor=red}, or  
\hypersetup{citecolor=green}, or  
\hypersetup{allcolor=blue}.
```

If you want to completely hide the links, you can use:

```
\hypersetup{allcolors=.}, or even better:  
\hypersetup{hidelinks}.
```

If you want to have obvious links in the PDF but not the printed text, use:

```
\hypersetup{colorlinks=false}.
```


Appendix B

Declaration of Originality

DECLARATION OF ORIGINALITY

Master's Thesis for the School of Life Sciences and Facility Management

By submitting this Master's thesis, the student attests of the fact that all the work included in the assignment is their own and was written without the help of a third party.

The student declares that all sources in the text (including Internet pages) and appendices have been correctly disclosed. This means that there has been no plagiarism, i.e. no sections have been partially or wholly taken from other texts and represented as the student's own work or included without being correctly referenced.

Any misconduct will be dealt with according to paragraphs 39 and 40 of the General Academic Regulations for Bachelor's and Master's Degree Courses at the Zurich University of Applied Sciences (dated 29 Januar 2008) and subject to the provisions for disciplinary action stipulated in the University regulations (Rahmenprüfungsordnung ZHAW (RPO)).

Town/City, Date:

Signature:

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The original signed and dated document (no copies) must be included in the appendix of the ZHAW version of all Master's theses submitted.