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Master of Science

A Very Long and Impressive Thesis Title With a Line Break

Thesis plan submitted in partial fulfillment
of the requirements for the degree of

Doctor of Philosophy in
Biomedical Engineering

Adviser: Pedro Vieira, Auxiliar Professor,
NOVA University of Lisbon

Abstract

The dissertation must contain two versions of the abstract, one in the same language as the main text, another in a different language. The package assumes that the two languages under consideration are always Portuguese and English.

The package will sort the abstracts in the appropriate order. This means that the first abstract will be in the same language as the main text, followed by the abstract in the other language, and then followed by the main text. For example, if the dissertation is written in Portuguese, first will come the summary in Portuguese and then in English, followed by the main text in Portuguese. If the dissertation is written in English, first will come the summary in English and then in Portuguese, followed by the main text in English.

The abstract should not exceed one page and should answer the following questions:

- What's the problem?
- Why is it interesting?
- What's the solution?
- What follows from the solution?

Keywords: Keywords (in English) ...

Resumo

Independentemente da língua em que está escrita a dissertação, é necessário um resumo na língua do texto principal e um resumo noutra língua. Assume-se que as duas línguas em questão serão sempre o Português e o Inglês.

O *template* colocará automaticamente em primeiro lugar o resumo na língua do texto principal e depois o resumo na outra língua. Por exemplo, se a dissertação está escrita em Português, primeiro aparecerá o resumo em Português, depois em Inglês, seguido do texto principal em Português. Se a dissertação está escrita em Inglês, primeiro aparecerá o resumo em Inglês, depois em Português, seguido do texto principal em Inglês.

O resumo não deve exceder uma página e deve responder às seguintes questões:

- Qual é o problema?
- Porque é que ele é interessante?
- Qual é a solução?
- O que resulta (implicações) da solução?

E agora vamos fazer um teste com uma quebra de linha no hífen a ver se a \LaTeX duplica o hífen na linha seguinte...

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lhe zzz zzzz zzz zzzz

Sim! Funciona! :)

Palavras-chave: Palavras-chave (em Português) ...

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Listings

Glossary

aliquam	tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.
computer	An electronic device which is capable of receiving information (data) in a particular form and of performing a sequence of operations in accordance with a predetermined but variable set of procedural instructions (program) to produce a result in the form of information or signals.
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GLOSSARY

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Acronyms

AP Air Pollution

EPA Environmental Protection Agency (United States)

Symbols

*

Introduction

1.1 Conceptualization

1.1.1 Background

1.1.2 The Problem

1.1.3 Objectives

1.1.4 Methods

1.1.5 Results

1.1.6 Conclusions

1.2 Theoretical Background

1.2.1 Air Pollution

Air Pollution (AP) is a very important topic of discussion in the current days, with scientists and researchers around the globe being very well aware of the potential effects it can have on the health of individuals and populations across all ecosystems. Not to mention its implications on climate change, which are generally regarded as one of the capital threats to life on Earth's survival (on par with a nuclear apocalypse). Defining AP can be a challenge. In fact, its effects and presence is so all-encompassing, that it would be fair to say that its definition changes with the angle with which one looks upon it. Nonetheless, it is important to at least try to define it, in order to approach it in some way [2, 4].

The United States Environmental Protection Agency (EPA) defined Air Pollution (AP) as "*the presence of contaminants or pollutant substances in the air that interfere with human health or welfare, or produce other harmful environmental effects*" [5]. This is (perhaps intentionally) a very broad definition, too broad to avoid vagueness. It does introduce a key concept: the term *pollutant*, which needs be discussed in order

to complete the definition above.

It would be very hard to find someone who did not have an almost instinctive idea of what a pollutant is. We know something is amiss when we notice our air is full of smoke or smells strange, but our senses are not enough. There are many chemical components that are untraceable by unaided humans, and some that are only detected by our noses and eyes at concentration levels which are above the threshold where they can damage our health. This makes the task of separating pollutants from non-pollutants a non-trivial one. If we cannot rely solely on our senses to detect them, then it is up to the scientists and engineers to create methods that allow us to do so. Whats more, we must also rely on them to understand how can a normally harmless substance be a pollutant, depending on the circumstance. For instance, nitrous compounds are traditionally beneficial to the soils and cultures, but they can and do cause pulmonary and cardiovascular complications in humans [1–3].

Context matters to pollutants. The toxic nature of a certain chemical only is revealed when someone or something gets exposed to it. Even then, there are exposure levels which do not bear any effects, good or bad. At these levels, a pollutant is but an impurity. There too many potential pollutants in our modern day world to list here, but the World Health Organization (??) states that there are six major air pollutants:

- Particle Matter (??);
- Ground level ozone (O_3);
- Carbon monoxide (CO);
- Sulfur Oxides (SO_x);
- Nitrous Oxides (NO_x);
- Lead (Pb).

Exposure to these pollutants have different effects on humans, ranging in seriousness from skin irritation to neuropsychiatric complications, depending on dose and on the time the exposure lasts. In the next subsections, I will address each of the major pollutants enumerated and briefly describe the physiological mechanisms behind their toxicity.

1.2.1.1 Particle Matter

1.2.1.2 Ground Level Ozone

1.2.1.3 Carbon Monoxide

1.2.1.4 Sulfur Oxides

1.2.1.5 Nitrous Oxides

1.2.1.6 Lead

1.3 Literature Review

ThesisDIFCTLN User's Manual

2.1 Introduction

A Short L^AT_EX Tutorial with Examples

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Appendix 1 Lorem Ipsum

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