

L^AT_EX

A SHORT INTRODUCTION

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Overview

Introduction

Getting Started

INTRODUCTION

What is L^AT_EX?

A typesetting program: *content* \rightarrow *a document*

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input: filename.tex

L^AT_EX

output: filename.pdf

```

\begin{document}
\maketitle
\tableofcontents
\clearpage
\setlength{\parskip}{6pt}

\section{Scenarios}

For model checks, we explore 3 simulation scenarios:
\newcommand{\scenario}[2]{\textbf{\nameref{sec:#1}}: #2}
\begin{enumerate}
  \item \scenario{eq}
    {only susceptible groups; for verifying demographic outputs}
  \item \scenario{epi}
    {only susceptible and undiagnosed groups; for verifying transmission dynam
  \item \scenario{full}
    {all population groups; for verifying intervention dynamics}
\end{enumerate}
\clearpage

\section{Equilibration}\label{sec:eq}\renewcommand{\sec}{eq}

\figi{\sec-X-activity}
{Equilibration proportions of activity groups and sex}
\figi{\sec-N-all}
{Total population during equilibration, adjusted to reach $N_0$ at the
\clearpage

\section{Epidemic}\label{sec:epi}\renewcommand{\sec}{epi}

\subsection{Population Proportions}

\figii{\sec-X-activity}{activity groups}
{\sec-X-infected}{infected groups}
{Population proportions}

\subsection{Prevalence}

\figii{\sec-prevalence-sexwork}{FSW and clients}

```



Model Checks: Dynamic Model of HIV Transmission in eSwatini with focus on Female Sex Workers	
Jesse Knight, Hui Ting Ma, Linwei Wang, Sharmistha Mishra	
October 9, 2018	
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Advantages of L^AT_EX

- separate content and formatting
- automatic numbers and cross-references
- beautiful math
- comments and version control
- split up large documents into parts
- it's free!

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How does L^AT_EX Work?

Three layers:

1. “primitives” – e.g. `\def\pi{3.14}` defines a macro `\pi` to contain “3.14”
+ “kernel” – e.g. tools to combine primitives
2. “classes” – e.g. an article, which should have: title, author, sections, etc.
+ “packages” – e.g. modify or extend a basic class
3. “document” – e.g. this specific article (including content!)

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GETTING STARTED

Your First Document

```
\documentclass{article}  
% document header  
\begin{document}  
  % document content  
  Hello World  
\end{document}
```

But first: Overleaf → “New Project”

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But first: [Overleaf](#) → “New Project”

Document Elements

Title, author, date

Sections

Math

cross-references & table of contents

citations & bibliography

Footnotes & Index

Document Elements

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- ▶ sections
- ▶ math
- ▶ cross-references & table of contents
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Helpful Resources

- ▶ [Overleaf](#) – Online \LaTeX writing application
- ▶ [\$\text{\LaTeX}\$ Install Guide](#) – To install \LaTeX on your computer (offline)
- ▶ [TeXstudio](#) – Great editor for composing \LaTeX “code” (offline)
- ▶ [\$\text{\TeX}\$ Stack Exchange](#) – Q & A style how-to and debugging help
- ▶ [\$\text{\LaTeX}\$ Cheat Sheet](#) – A really nice reference for common commands