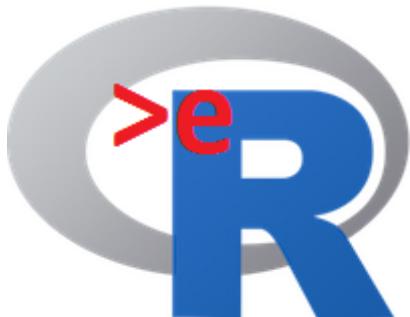




This course was developed as a part of several VLIR-UOS projects:

- Cross-cutting Statistics: 2011-2016, 2017.
- Cross-cutting Statistics: 2017.
- Statistics for development : 2018-2022.
- The >rR-BioStat platform ITP project: 2024-2026.



The >eR-Biostat initiative  
Making R based education materials in  
statistics accessible for all

## Basic concept of statistical inference and estimation using R: content development

Ziv Shkedy (Hasselt University)

LAST UPDATE: 06/2026



ER-BioStat

 <https://github.com/eR-Biostat>

 @erbiostat

What is the plan for the next week ?



# Structure of ITP7

Day 1 13/07	Day 2 14/07	Day 3 15/07	Day 4 16/07	Day 5 17/07	Day 6 18/07	Day 7 19/07
Platform training	ML training	ML training	ML training	Platform training	Platform training	Platform training

+ Online meeting after the workshop



- Focus on one course: Basic concepts of Statistical inference and estimation.

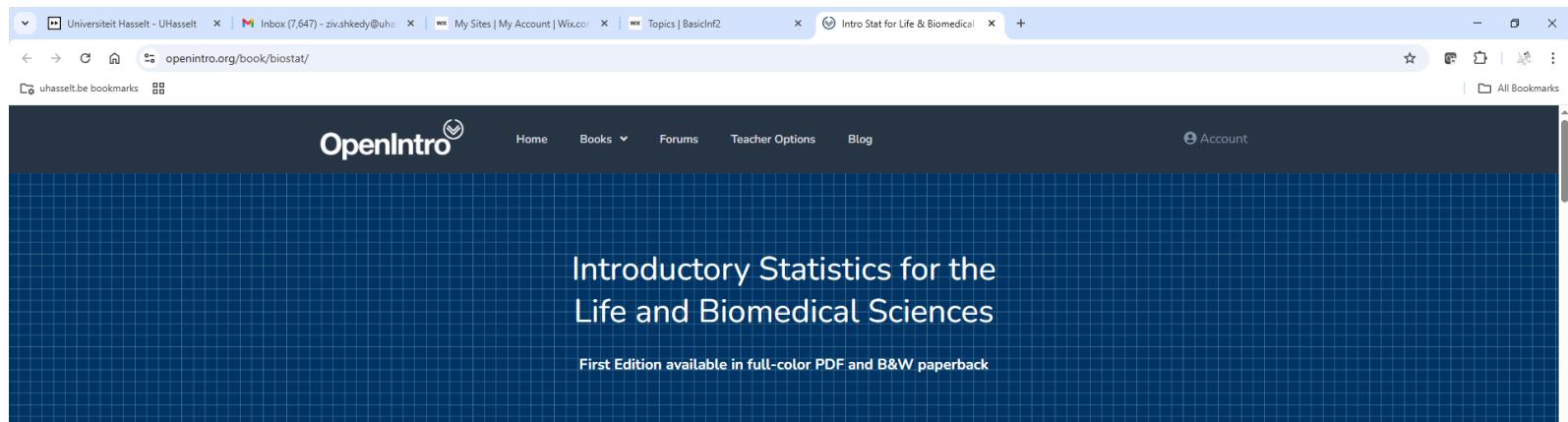
# Basic concepts of Statistical inference and estimation: course's content

# Information about the course level

- The course was developed at an undergraduate level:
  - Students in Statistics.
  - Students in life science.
- But:
  - Applied materials for master students.
  - Short course on basic statistics.
  - Training course for (non statisticians) PhD students.
- Data science: basic course about statistics.

# Reference book

- Online book of Jullie Vu and David Harrington.



## Textbook Pedagogy

*Introduction to Statistics for the Life and Biomedical Sciences* has been written to be used in conjunction with a set of self-paced learning labs. These labs guide students through learning how to apply statistical ideas and concepts discussed in the text with the R computing language.

The text discusses the important ideas used to support an interpretation (such as the notion of a confidence interval), rather than the process of generating such material from data (such as computing a confidence interval for a particular subset of individuals in a study). This allows students whose main focus is understanding statistical concepts to not be distracted by the details of a particular software package. In our experience, however, we have found that many students enter a research setting after only a single course in statistics. These students benefit from a practical introduction to data analysis that incorporates the use of a statistical computing language.

In a classroom setting, we have found it beneficial for students to start working through the labs after having been exposed to the corresponding material in the text, either from self-reading or through an instructor presenting the main ideas. The labs are organized by chapter, and each lab corresponds to a particular section or set of sections in the text.

There are traditional exercises at the end of each chapter that do not require the use of computing. More complicated methods, such as multiple regression, do not lend themselves to hand calculation and computing is necessary for gaining practical experience with these methods. The lab exercises for these later chapters become an increasingly important part of mastering the material.



<https://www.openintro.org/book/biostat/>

# Reference book

## Chapter 4

### Foundations for inference

- 4.1 Variability in estimates
- 4.2 Confidence intervals
- 4.3 Hypothesis testing
- 4.4 Notes
- 4.5 Exercises

## Chapter 5

### Inference for numerical data

- 5.1 Single-sample inference with the  $t$ -distribution
- 5.2 Two-sample test for paired data
- 5.3 Two-sample test for independent data
- 5.4 Power calculations for a difference of means
- 5.5 Comparing means with ANOVA
- 5.6 Notes
- 5.7 Exercises

## Chapter 8

### Inference for categorical data

- 8.1 Inference for a single proportion
- 8.2 Inference for the difference of two proportions
- 8.3 Inference for two or more groups
- 8.4 Chi-square tests for the fit of a distribution
- 8.5 Outcome-based sampling: case-control studies
- 8.6 Notes
- 8.7 Exercises

- Introduction to statistic and life science.
- The course is based on three chapters from Jullie and Dave's book.
- Focus: inference and estimation.

# For whom ?

- Students.
- Teachers who need to teach a basic course in stat & data science.

# Course website

# Basic statistical inference and estimation using R

- Course website:
  - Slides.
  - Books.
  - R programs.
  - You tube & online tutorials.
- All materials are available for free.
- Source files (power point, R programs, Tex, Rmd..) are available as well.
- An “open source” approach.



# Course's website

The screenshot shows a Wix website titled "Basic concepts of statistical inference using R". The header includes the Wix logo, a "Get Started" button, and navigation links for Home, About, Topics, Online tutorials, and Contact. Below the header, there is a section for "eR-BioStat" featuring a scatter plot titled "Figure 2.1: Chick weight by diet group". The plot shows weight on the x-axis (ranging from 100 to 400) and diet groups on the y-axis. The data points are categorized by diet group: sunflower, soybean, mealmeal, arachid, horsebean, and casein. A caption below the plot states: "The boxplot in Figure 2.2 can be used to visualize the patterns in the data. Note how the box of the horsebean diet group is located lower than the boxes of the other diet groups." At the bottom of the page, a note says: "This is an open source course and all source files used to produce the slides are available online (in PP, Tex or Rmd formats)."

- A free WIX website.
- A part of the eR-BioStat platform.

<https://erbiostat.wixsite.com/basicinf>

# Content

- The website offers:
  - Two courses.
  - Slides, online books, etc.

The screenshot shows a Microsoft Edge browser window with the following details:

- Address Bar:** erbiostat.wixsite.com/basicinf/topics
- Page Title:** Topics | BasicInf2
- Header:** WIX | This website was built on Wix. Create yours today. [Get Started](#)
- Logo:** A large blue 'R' logo with a red 'e' inside the top curve.
- Page Content:**
  - Section 1:** Basic concepts of statistical inference using R  
- Sub-section: >eR-BioStat
  - Section 2:** Topics
    - Section 3:** The course in slides format
      - We provide two (similar) courses that were developed by the >eR-BioStat team and by Julie Vu and Dave Harrington(<https://www.openintro.org/book/biostat/>), respectively.
      - Both courses cover the same topics and we provide the course files that were used to produce the slides.
    - Text Box:** The slides in this page are organised in three chapters that cover basic topics in statistical inference using R. The course is focused on the practical aspects of inference and not only on the theory behind and covers the following topics:
      - Inference for continuous data: one sample.
      - Inference for continuous data: two sample.
      - Inference for categorical data: one & two samples.
    - Text Box:** All examples are illustrated using the R software. Useful R functions include:
      - t.test()
      - prop.test()
      - chisq.test()
    - Text Box:** External datasets for illustration are included in the data

# Content

The screenshot shows a Microsoft Edge browser window with several tabs open. The active tab displays a Wix website titled "Basic concepts of statistical inference using R" by >eR-BioStat. The page includes a "Get Started" button with a red arrow pointing to it. The content section is titled "Basic concepts of statistical inference using R: online tutorials". Below this, there's a heading "Online tutorials" followed by a list of topics. Further down, there's a section for "YouTube tutorials" with links to various videos. The browser's taskbar at the bottom shows icons for search, file operations, and system status.

- Online materials:
  - YouTube tutorials.
  - Online notes..

WIX | This website was built on Wix. Create yours today. [Get Started](#)

Basic concepts of statistical inference using R

>eR-BioStat

### Basic concepts of statistical inference using R: online tutorials

### Online tutorials

The online tutorials consists of YouTube and online notes and books. The online tutorials cover the same topic discussed in the course but use different examples for illustration. Topics cover in the tutorials include:

- One sample t test.
- Two sample t test for independent samples.
- Paired t- test.
- Confidence intervals for the population mean.
- Test for proportions.
- Confidence intervals for proportions.
- Chi-squared tests.

### YouTube tutorials

This part of the course consists of 15 YouTube tutorials about basic concepts of inference using R. The R code used for the examples presented in the tutorials and the datasets are a part of the tutorial videos.

<a href="#">YouTube tutorial 1: two sample t-test in R Studio (host: Charlene McCord)</a>	<a href="#">YouTube tutorial 6: One-Sample t Test &amp; Confidence Interval in R with Examples (host: Mark Martin)</a>	<a href="#">YouTube tutorial 11: The Two-Sample Test of Proportions in R (host: Patrick Rafail)</a>
<a href="#">Two sample t test</a>	<a href="#">t test &amp; C.I.s</a>	<a href="#">Test for two proportions</a>
<a href="#">YouTube tutorial 2: Two sample t Test</a>	<a href="#">YouTube tutorial 7: One sample t-Test</a>	<a href="#">YouTube tutorial 12: Performing a Chi</a>

Type here to search ENG 14:28 6/06/2025

# Topics in more details

# Two courses

Two courses:  
Basic statistical  
inference and  
estimation.

The website is built on Wix, as indicated by the WIX logo and text at the top.

**Basic concepts of statistical inference using R**

**>eR-BioStat**

**Topics**

The course in slides format

We provide two (similar) courses that were developed by the **>eR-BioStat** team and by Julie Vu and Dave Harrington(<https://www.openintro.org/book/biostat/>), respectively.

Both courses cover the same topics and we provide the course files that were used to produce the slides.

The slides in this page are organised in three chapters that cover basic topics in statistical inference using R. The course is focused on the practical aspects of inference and not only on the theory behind and covers the following topics:

- Inference for continuous data: one sample.
- Inference for continuous data: two sample.
- Inference for categorical data: one & two samples.

All examples are illustrated using the R software. Useful R functions include:

- `t.test()`
- `prop.test()`
- `chisq.test()`

External datasets for illustration are included in the data

Windows taskbar at the bottom:

- Type here to search
- Start button
- Icons for File Explorer, Photos, Google Chrome, and File History
- Network, Battery, and Volume icons
- Language: ENG
- Date and time: 14:30 06/06/2025

# Course 1

The screenshot shows a Microsoft Edge browser window displaying a Wix website for a statistics course. The address bar shows the URL [erbiostat.wixsite.com/basicinf/topics](http://erbiostat.wixsite.com/basicinf/topics). The page title is "Topics | BasicInf2". The main content area features a blue sidebar with the text "External datasets for illustration are included in the data repositories." Below this, there are three main sections: "basic concepts of inference (one population)", "Inference for continuous data (one population & two populations)", and "Inference for binary and categorical data". Each section has a brief description and a list of topics or methods. At the bottom, there are download links for PDF and PPT files for each chapter, along with R program links. A red wavy line highlights the first two sections.

WIX | This website was built on Wix. Create yours today. [Get Started](#)

slides.

• t.test()  
• prop.test()  
• chisq.test()

External datasets for illustration are included in the data repositories.

basic concepts of inference (one population)

This chapter introduces the important concepts in drawing estimates from samples from one population. We discuss methods of inference and estimation for a population mean and cover three topics:

- Point estimates for a population mean.
- Interval estimates methods.
- Testing hypotheses about the population mean.

External datasets are available in the data repository.

Inference for continuous data (one population & two populations)

This chapter discusses the settings where The methods discussed in the previous class are applied to multiple populations. This include:

- The analysis of paired observations
- The comparison of two or more independent groups.

Both normal and t distribution are used for both interval estimation and inference.

External datasets are available in the data repository.

Inference for binary and categorical data

In this chapter, methods for estimation and inference are extended to categorical data, Such as binomial proportions or data in two-way tables. We cover the following topics:

- Tests and estimation methods for proportion in one population.
- Tests and estimation methods for proportions in two populations.
- Chi-square tests.

External datasets are available in the data repository.

Slides (PDF): Chapter 4  
Slides (PP): Chapter 4  
R programm

Slides (PDF): Chapter 5  
Slides (PP): Chapter 5  
R programm

Slides (PDF): Chapter 8  
Slides (PP): Chapter 8  
R programm

Type here to search ENG 14:31 6/06/2025

# Online books

Universiteit Hasselt - UHasselt | Inbox (7,646) - ziv.shkedy@uhasselt.be | My Sites | My Account | Wix.com | Topics | BasicInf2

erbiostat.wixsite.com/basicinf/topics

uhasselt.be bookmarks All Bookmarks

**WIX** | This website was built on Wix. Create yours today. [Get Started](#)

R programm R programm R programm

Recommended reading for the classes about inference for one and two population and for inference of categorical data are [Chapter 4](#), [Chapter 5](#) and [Chapter 8](#) in the book "introductory statistics for the life and biomedical sciences", respectively, which is available online here:

Chapter 4: HTML Chapter 5: HTML Chapter 8: HTML

Chapter 4: Rmd Chapter 5: Rmd Chapter 8: Rmd

Online book

This part of the course is based on [unit 4](#) in Vu & Harrington course and it covers the following topics:

- Inference for one population.
- Point estimate and interval estimates.

Slides (PDF): Unit 4  
Slides (PP): Unit 4  
Slides (Rmd): Unit 4

This part of the course is based on [unit 5](#) in Vu & Harrington course and it covers the following topics:

- Inference for paired data.
- Inference for independent samples.

Slides (PDF): Unit 5  
Slides (PP): Unit 5  
Slides (Rmd): Unit 5

This part of the course is based on [unit 8](#) in Vu & Harrington course and it covers the following topics:

- Categorical outcome and chi-square tests.
- Binary outcome and test for proportions.

Slides (PDF): Unit 8  
Slides (PP): Unit 8  
Slides (Rmd): Unit 8

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14:31 6/06/2025 ENG

18

# Course 2

The screenshot shows a Wix website for a course. The top navigation bar includes links to the university homepage, inbox, my sites/account, and topics. The main content area is titled "WIX | This website was built on Wix. Create yours today." with a "Get Started" button. Below this, there are three columns, each containing a green box labeled "R programm". Underneath these are two rows of green boxes: the top row contains "Chapter 4: HTML" and "Chapter 5: HTML"; the bottom row contains "Chapter 4: Rmd" and "Chapter 5: Rmd". A central green box labeled "Online book" is positioned above a large red rectangular box that spans the width of the first two columns. This red box contains three sections of text and corresponding green boxes:

- This part of the course is based on [unit 4](#) in Vu & Harrington course and it covers the following topics:
  - Inference for one population.
  - Point estimate and interval estimates.[Slides \(PDF\): Unit 4](#)
- This part of the course is based on [unit 5](#) in Vu & Harrington course and it covers the following topics:
  - Inference for paired data.
  - Inference for independent samples.[Slides \(PDF\): Unit 5](#)
- This part of the course is based on [unit 8](#) in Vu & Harrington course and it covers the following topics:
  - Categorical outcome and chi-square tests.
  - Binary outcome and test for proportions.[Slides \(PDF\): Unit 8](#)

At the bottom of the page, a footer notes: "© 2020 by >eR-BioStat. Proudly created with Wix.com". The Windows taskbar at the bottom shows the search bar, pinned icons for File Explorer, Google Chrome, and File History, and system status icons.

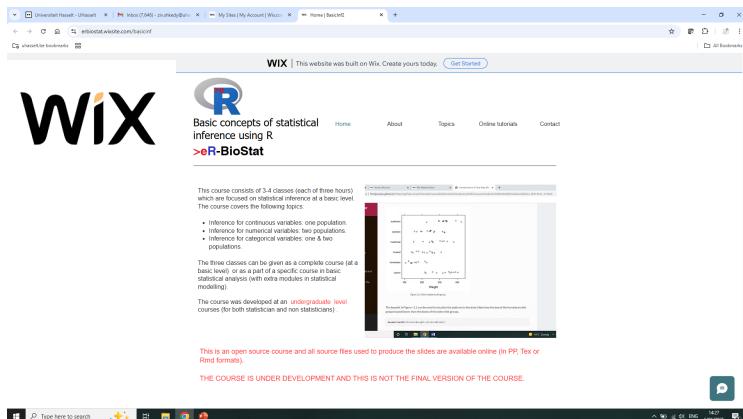
# Materials and where we storage them ?

# Main concept: links between platforms

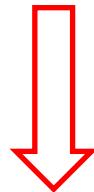
- Why ?
  - We link between publicly available free platform.
  - We do not need budget for online materials.
  - Development tool: laptop !!!

# What does it exactly mean: links between platforms ??

<https://erbiostat.wixsite.com/basicinf>



- The course website: a free WIX website.
- Course website:
  - Slides.
  - Programs.
  - Course materials.
  - ...
- Where do we keep them ?



- We do not need to pay for usage.

# The WIX website: course's website

The screenshot shows a Microsoft Edge browser window with the following tabs:

- Universiteit Hasselt - UHasselt
- Inbox (7,646) - ziv.shkedy@uhasselt.be
- My Sites | My Account | Wix.com
- Topics | BasicInf2

The main content area displays the Wix website for the course "BasicInf2". The header includes the Wix logo and a "Get Started" button. A blue callout box highlights the following topics:

- t.test()
- prop.test()
- chisq.test()

External datasets for illustration are included in the data repositories.

## Materials for course 1.

**basic concepts of inference (one population)**

This chapter introduces the important concepts in drawing estimates from samples from one population. We discuss methods of inference and estimation for a population mean and cover three topics:

- Point estimates for a population mean.
- Interval estimates methods.
- Testing hypotheses about the population mean.

External datasets are available in the data repository.

**Inference for continuous data (one population & two populations)**

This chapter discusses the settings where The methods discussed in the previous class are applied to multiple populations. This include:

- The analysis of paired observations
- The comparison of two or more independent groups.

Both normal and t distribution are used for both interval estimation and inference.

External datasets are available in the data repository.

**Inference for binary and categorical data**

In this chapter, methods for estimation and inference are extended to categorical data, Such as binomial proportions or data in two-way tables. We cover the following topics:

- Tests and estimation methods for proportion in one population.
- Tests and estimation methods for proportions in two populations.
- Chi-square tests.

External datasets are available in the data repository.

**Slides of Chapter 4.**

**Slides (PDF): Chapter 4**

**Slides (PP): Chapter 4**

**R programm**

**Slides (PDF): Chapter 5**

**Slides (PP): Chapter 5**

**R programm**

**Slides (PDF): Chapter 8**

**Slides (PP): Chapter 8**

**R programm**

At the bottom of the screen, the Windows taskbar is visible with icons for search, file explorer, and other applications. The system tray shows the date and time (14:31, 6/06/2025), battery level, and network status.

# Course 1: slides of Chapter 4

Screenshot of a web browser showing a PDF document titled "Population and sample: notations".

The document contains the following text and diagrams:

**Population :  $X$**

$X_1, X_2, \dots, X_N$

$\mu, \sigma^2$

**sample**

$X_1, X_2, \dots, X_n$

$X_i$  : Random variable from the population.

$\mu, \sigma^2$  : The unknown parameters.

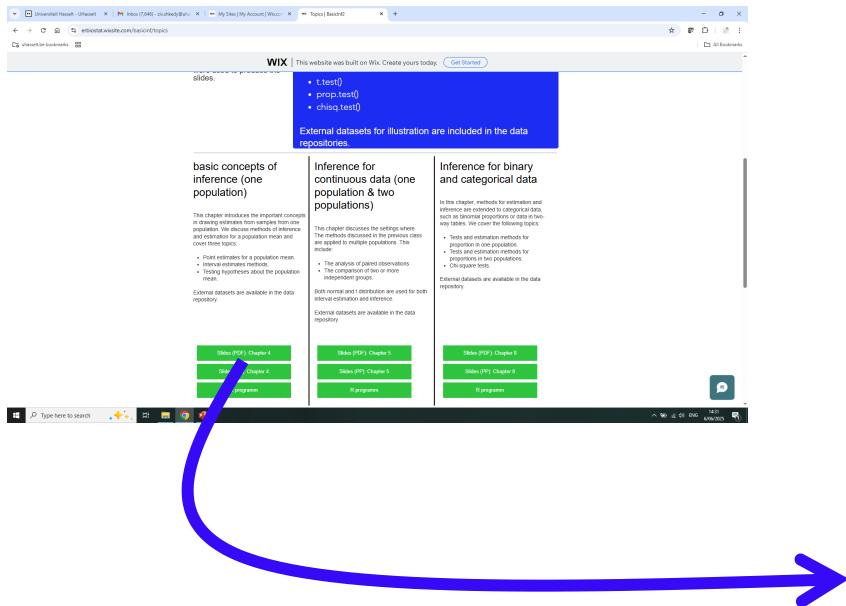
14

14:41 6/06/2025 ENG

- A PDF file with the slides of Chapter 4.

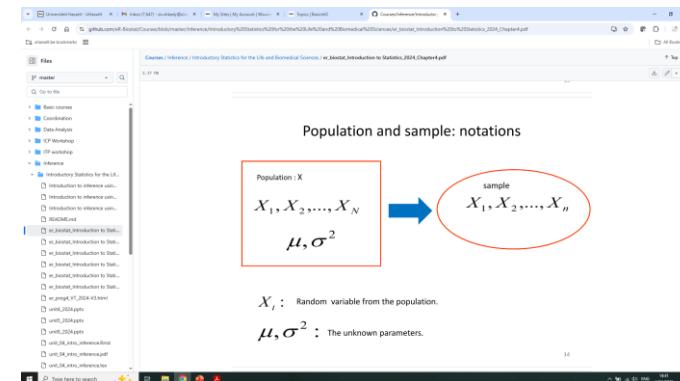
# Course's website & Slides

A WIX website.



- The user does not need to know where the materials are located/stored.
- The user/developer can download all the materials to her/his laptop.

A GitHub page: PDF file.



# WIX website: course's website

The screenshot shows a Wix website for a course titled "BasicInf2". The top navigation bar includes links for "Universiteit Hasselt - UHasselt", "Inbox (7,646) - ziv.shkedy@uhasselt.be", "My Sites | My Account | Wix.com", and "Topics | BasicInf2". The main content area features a "Get Started" button and a blue sidebar with bullet points: "t.test()", "prop.test()", and "chisq.test()". A text box states: "External datasets for illustration are included in the data repositories." Below this are three main sections: "basic concepts of inference (one population)", "Inference for continuous data (one population & two populations)", and "Inference for binary and categorical data". Each section has a brief description and a list of topics or methods. At the bottom, there are green boxes for "Slides (PDF): Chapter 4", "Slides (PP): Chapter 4", "R programm", "Slides (PDF): Chapter 5", "Slides (PP): Chapter 5", "R programm", "Slides (PDF): Chapter 8", "Slides (PP): Chapter 8", and "R programm". A red arrow points from the text "R program for all the example presented in the slides for Chapter 4." to the "R programm" link under Chapter 4.

R program for all the example presented in the slides for Chapter 4.

Slides (PDF): Chapter 4  
Slides (PP): Chapter 4  
R programm

Slides (PDF): Chapter 5  
Slides (PP): Chapter 5  
R programm

Slides (PDF): Chapter 8  
Slides (PP): Chapter 8  
R programm

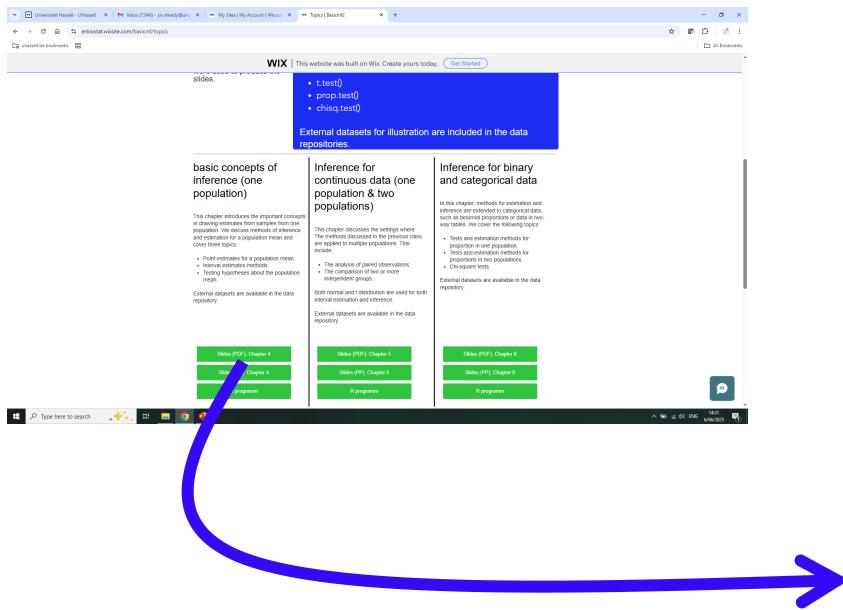
# R program for the examples

The screenshot shows a GitHub repository page for 'eR-Biostat / Courses' (Public). The repository contains an R script named 'Introduction to inference using R\_Chapter4.R'. The code is as follows:

```
1 #####  
2 # #####  
3 # #####  
4 # Introduction to Statistical inference using R #####  
5 # #####  
6 # 2018 #####  
7 # Ziv Shkedy #####  
8 # >eR-BioStat #####  
9 # Chapter 4 #####  
10 # #####  
11 # #####  
12 #####  
13  
14  
15  
16  
17  
18 #####  
19 ##### Chapter Four #####  
20 #####  
21  
22 #####  
23 # 1.1: Notations and definitions #####  
24 #####  
25  
26 help(airquality)  
27 airquality$Ozone  
28
```

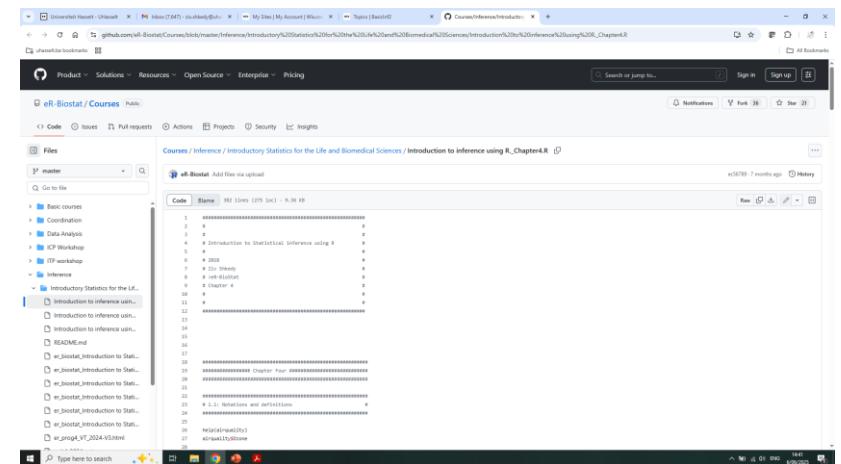
# Course's website & R program for the example

# A WIX website.



The user is directed to the relevant course materials using the button in the website.

# A GitHub page: the R program.



# The WIX website: course's website

A screenshot of a Wix website for a statistics course. The header features the Wix logo and a 'Get Started' button. Below the header, there are three green buttons labeled 'R programm'. A text block below them states: 'Recommended reading for the classes about inference for one and two population and for inference of categorical data are [Chapter 4](#), [Chapter 5](#) and [Chapter 8](#) in the book "Introductory statistics for the life and biomedical sciences", respectively, which is available online here.' Below this text are three columns of buttons: 'Chapter 4: HTML' (dark blue), 'Chapter 4: Rmd' (green), 'Chapter 5: HTML' (green), 'Chapter 5: Rmd' (green), 'Chapter 8: HTML' (green), and 'Chapter 8: Rmd' (green). A large green button labeled 'Online book' is centered below these. The main content area is divided into three columns. The left column contains text about 'unit 4' and a list of topics: 'Inference for one population' and 'Point estimate and interval estimates'. It also has three green buttons: 'Slides (PDF): Unit 4', 'Slides (PP): Unit 4', and 'Slides (Rmd): Unit 4'. The middle column contains text about 'unit 5' and a list of topics: 'Inference for paired data' and 'Inference for independent samples'. It has three green buttons: 'Slides (PDF): Unit 5', 'Slides (PP): Unit 5', and 'Slides (Rmd): Unit 5'. The right column contains text about 'unit 8' and a list of topics: 'Categorical outcome and chi-square tests' and 'Binary outcome and test for proportions'. It has three green buttons: 'Slides (PDF): Unit 8', 'Slides (PP): Unit 8', and 'Slides (Rmd): Unit 8'. At the bottom, a footer bar includes a link to the Wix site, a search bar, and system status icons.

A link to the online book: Chapter 4.

This part of the course is based on [unit 4](#) in Vu & Harrington course and it covers the following topics:

- Inference for one population.
- Point estimate and interval estimates.

This part of the course is based on [unit 5](#) in Vu & Harrington course and it covers the following topics:

- Inference for paired data
- Inference for independent samples.

This part of the course is based on [unit 8](#) in Vu & Harrington course and it covers the following topics:

- Categorical outcome and chi-square tests.
- Binary outcome and test for proportions.

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# Online book for Chapter 4

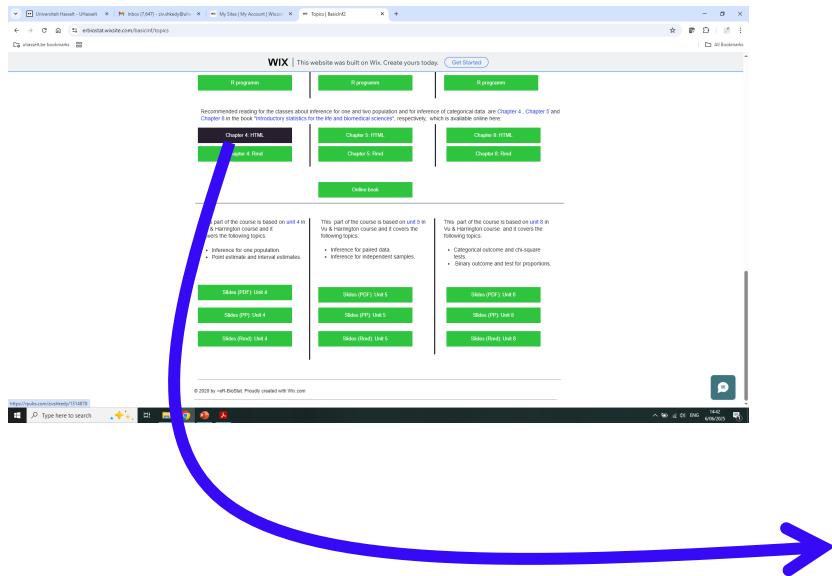
The screenshot shows a web browser window displaying an Rpubs page titled "RPubs - Chapter 4 (Temp)". The page is a digital version of Chapter 4 from a book on introductory statistics.

**Page Structure:**

- Header:** Includes the Rpubs logo, a sidebar with "RPubs by RStudio", and navigation links for "Sign in" and "Register".
- Left Sidebar:** Contains a table of contents for Chapter 4:
  - 1. Variability in estimates
  - 2. Standard error of the mean
  - 3. Confidence intervals
  - 4. Hypothesis testing
  - 5. Hypothesis testing and confidence intervals
  - 6. Decision error (Type I and Type II error)
- Main Content Area:**
  - Date and Author:** 26-03-2025 >eR-BioStat
  - Title:** Foundations for inference using R
  - Summary:** Ziv Shkedy and Thi Huyen Nguyen based on Chapter 4 in the book of Julie Vu and Dave Harrington *Introductory Statistics for the Life and Biomedical Sciences* (<https://www.openintro.org/book/biostat/>)
  - Section 1.1:** Variability in estimates
  - Section 1.2:** A point estimate for the population parameter
  - Text:** A natural way to estimate features of the population, such as the population mean weight, is to use the corresponding summary statistic calculated from the sample. For example, the sample mean  $\bar{x}$  is a point parameter estimate for the population (unknown) mean  $\mu$  and the sample variance  $s^2$  is a point parameter estimate for the population variance  $\sigma^2$ .
  - Section 1.3:** Example: the wind speed in the airquality dataset
  - Data and point estimates:** The airquality dataset gives information about 153 daily air quality measurements in New York, May to September 1973.
  - Code and Output:** Shows R code `## [1] 153 6` and its output, indicating the first 6 lines of the dataset.
  - Comments and Share:** Buttons for "Comments (-)", "Share", and "Hide Toolbars".

# Course website & the online book

A WIX website.



A file in RPubs.

The screenshot shows an RPubs document titled 'Foundations for inference using R' by Zhiqiang and Thi Hien Nguyen. The document is dated 26-03-2020 and has 48 pages. The first section is '1. Variability in estimates' with '1.2 A point estimate for the population parameter'. It includes a note: 'A natural way to estimate features of the population, such as the population mean weight, is to use the corresponding summary statistic calculated from the sample. For example, the sample mean is a point parameter estimate for the population (unknown) mean of the sample variable  $\bar{x}$ . It is a point estimate because it is a point estimate estimate for the population variable  $\mu$ '. The second section is '1.3 Example: the wind speed in the airquality dataset'. It includes a note: 'The airquality dataset gives information about 153 daily air quality measurements in New York, May to September 1973.' Below the notes, there are two code snippets showing the first 5 lines of the dataset: 'airquality[1:5] <- c(55, 11, 12, 4)' and 'airquality[1:5] <- c(55, 11, 12, 4)'. The footer shows the browser window title 'Chapter 4 (empty) - SciDr (Untitled - Last updated 11 days ago)'.

# Course 2: slides

The screenshot shows a Wix website for a statistics course. The header includes the Wix logo and a 'Get Started' button. Below the header, there are several green buttons labeled 'R programm'. A section titled 'Recommended reading for the classes about inference for one and two population and for inference of categorical data are Chapter 4 , Chapter 5 and Chapter 8 in the book "Introductory statistics for the life and biomedical sciences", respectively, which is available online here:' contains links to 'Chapter 4: HTML', 'Chapter 4: Rmd', 'Chapter 5: HTML', 'Chapter 5: Rmd', 'Chapter 8: HTML', and 'Chapter 8: Rmd'. A large red arrow points from the left towards the 'Unit 4' section. The 'Unit 4' section contains three green buttons: 'Slides (PDF): Unit 4', 'Slides (PP): Unit 4', and 'Slides (Rmd): Unit 4'. The 'Unit 5' section contains three green buttons: 'Slides (PDF): Unit 5', 'Slides (PP): Unit 5', and 'Slides (Rmd): Unit 5'. The 'Unit 8' section contains three green buttons: 'Slides (PDF): Unit 8', 'Slides (PP): Unit 8', and 'Slides (Rmd): Unit 8'. The footer includes a copyright notice: '© 2020 by >eR-BioStat. Proudly created with Wix.com' and a small speech bubble icon.

WIX | This website was built on Wix. Create yours today. [Get Started](#)

R programm

R programm

R programm

Recommended reading for the classes about inference for one and two population and for inference of categorical data are [Chapter 4](#) , [Chapter 5](#) and [Chapter 8](#) in the book "Introductory statistics for the life and biomedical sciences", respectively, which is available online here:

Chapter 4: HTML

Chapter 4: Rmd

Chapter 5: HTML

Chapter 5: Rmd

Chapter 8: HTML

Chapter 8: Rmd

Online book

This part of the course is based on [unit 4](#) in Vu & Harrington course and it covers the following topics:

- Inference for one population.
- Point estimate and interval estimates.

Slides (PDF): Unit 4

Slides (PP): Unit 4

Slides (Rmd): Unit 4

This part of the course is based on [unit 5](#) in Vu & Harrington course and it covers the following topics:

- Inference for paired data.
- Inference for independent samples.

Slides (PDF): Unit 5

Slides (PP): Unit 5

Slides (Rmd): Unit 5

This part of the course is based on [unit 8](#) in Vu & Harrington course and it covers the following topics:

- Categorical outcome and chi-square tests.
- Binary outcome and test for proportions.

Slides (PDF): Unit 8

Slides (PP): Unit 8

Slides (Rmd): Unit 8

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# The slides for Chapter 4 in GitHub

The screenshot shows a Microsoft Edge browser window displaying a GitHub file viewer. The URL in the address bar is [github.com/eR-Biostat/Courses/blob/master/Inference/Introductory%20Statistics%20for%20the%20Life%20and%20Biomedical%20Sciences/unit\\_04\\_intro\\_inference.pdf](https://github.com/eR-Biostat/Courses/blob/master/Inference/Introductory%20Statistics%20for%20the%20Life%20and%20Biomedical%20Sciences/unit_04_intro_inference.pdf). The page title is "Courses / Inference / Introductory Statistics for the Life and Biomedical Sciences / unit\_04\_intro\_inference.pdf".

The left sidebar shows the repository structure under the "master" branch:

- er\_biostat\_Introduction to Statisti...
- er\_prog4\_VT\_2024-V3.html
- unit4\_2024.pptx
- unit5\_2024.pptx
- unit8\_2024.pptx
- unit\_04\_intro\_inference.Rmd
- unit\_04\_intro\_inference.pdf** (selected)
- unit\_04\_intro\_inference.tex
- unit\_05\_inference\_num.pdf
- unit\_06\_inference\_num.Rmd
- unit\_06\_inference\_num.tex
- unit\_08\_inference\_cat.pdf
- unit\_09\_inference\_cat.Rmd
- unit\_09\_inference\_cat.tex

Below the sidebar, there are sections for "Sampling variability" and "Confidence intervals". The main content area displays the following text:

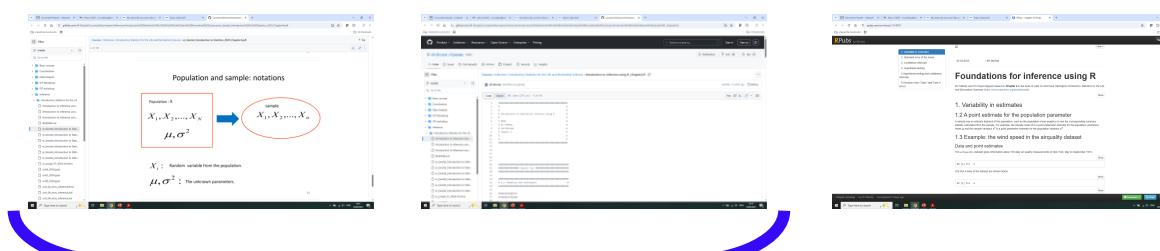
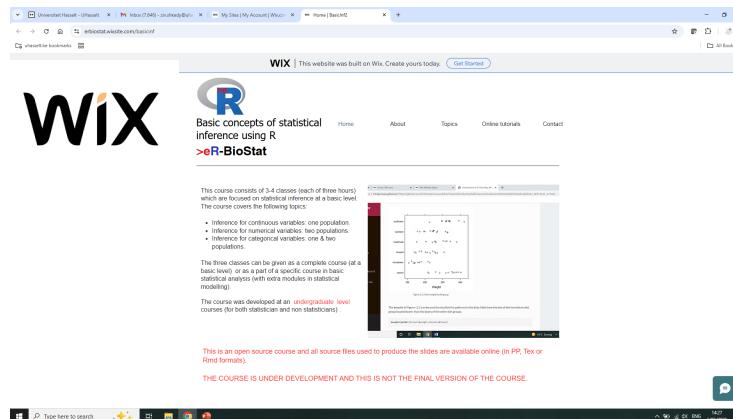
Unit 4: Introduction to Inference  
Statistics S-100 Teaching Team  
Summer 2024

1 / 48

# Summary so far

- Links between **free** platforms...

<https://erbiostat.wixsite.com/basicinf>



# Summary so far



- All materials are available to download.
- Free:
  - Developers.
  - Users.

How do we produce the HTML files ?

# Content development

- How can we create/change content ?
- What if we would like to change an example in the course ?

# Reference book

## Chapter 4

### Foundations for inference

- 4.1 Variability in estimates
- 4.2 Confidence intervals
- 4.3 Hypothesis testing
- 4.4 Notes
- 4.5 Exercises

## Chapter 5

### Inference for numerical data

- 5.1 Single-sample inference with the  $t$ -distribution
- 5.2 Two-sample test for paired data
- 5.3 Two-sample test for independent data
- 5.4 Power calculations for a difference of means
- 5.5 Comparing means with ANOVA
- 5.6 Notes
- 5.7 Exercises

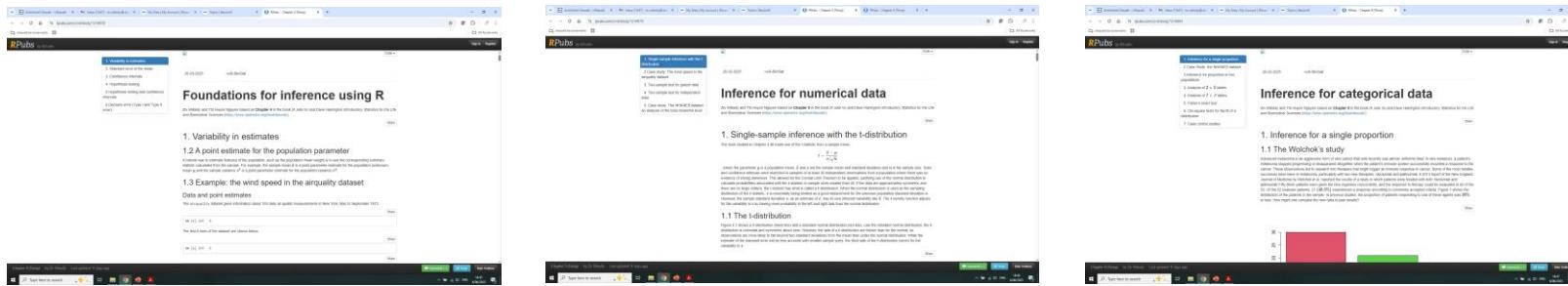
## Chapter 8

### Inference for categorical data

- 8.1 Inference for a single proportion
- 8.2 Inference for the difference of two proportions
- 8.3 Inference for two or more groups
- 8.4 Chi-square tests for the fit of a distribution
- 8.5 Outcome-based sampling: case-control studies
- 8.6 Notes
- 8.7 Exercises

- Fixed content.
- PDF file is available online.
  - The HTML are based on the book chapters but not identical.
  - Different examples.
  - R code as a part of the text !!!

# Online reference book



- The developer has full control on the content.
- HTML files:
  - “Theory” & practical session.
  - Software: R.
  - R datasets are available as a part of R packages.

# Online reference book: Rmd files

- For users & developers, per chapter:
  - HTML file.
  - [Rmd file to produce the HTML](#).
- Users: need only the HTML file (for the course).

# From Rmd to HTML (laptop)

The screenshot shows the RStudio interface. On the left, the R Markdown file 'unit\_09\_logistic\_regression.Rmd' is open, displaying R code and a header for a logistic regression chapter. On the right, the 'Knit' tab is selected, and the preview window shows the generated HTML content.

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1 <---
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2 output:
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3   bookdown::html_document2:
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4     toc: TRUE
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5     toc_float: TRUE
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6     toc_depth: 2
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7     number_sections: no
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8     css: ./1b/stylesArial.css
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9     code_folding: hide
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10    
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11 params:
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12   department: "<b>Biostat</b>"
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13   font_size: "10"
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```
14   author: "Ziv Shkedy and Thi Huyen Nguyen based on ""Chapter 4"" in the book of Julie Vu and Dave Harrington "Introductory Statistics for the Life and Biomedical Sciences" (https://www.openintro.org/book/biostat/)"
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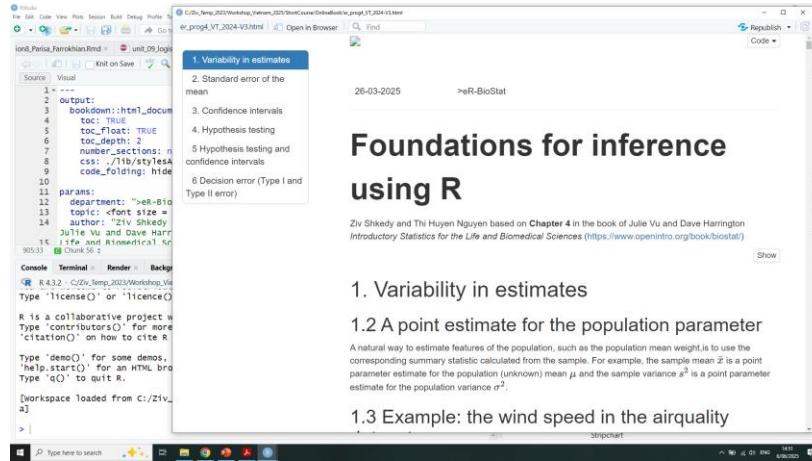
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# Offline to Online



- Laptop.

## Foundations for inference using R

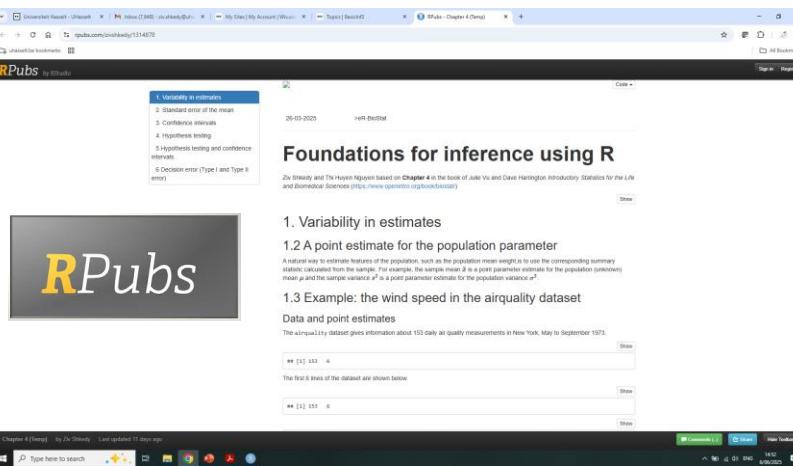
### 1. Variability in estimates

#### 1.2 A point estimate for the population parameter

A natural way to estimate features of the population, such as the population mean weight, is to use the corresponding summary statistic calculated from the sample. For example, the sample mean  $\bar{x}$  is a point parameter estimate for the population (unknown) mean  $\mu$  and the sample variance  $s^2$  is a point parameter estimate for the population variance  $\sigma^2$ .

#### 1.3 Example: the wind speed in the airquality dataset

- Online (HTML).
  - Everybody can see and use.



# Online at the website

<https://erbiostat.wixsite.com/basicinf>

The screenshot shows an RStudio session with a browser window open. The browser displays a page titled 'Foundations for inference using R' from RPubs. The page content includes a sidebar with navigation links like 'Variability in estimates', 'Standard error of the mean', etc., and a main section with text and code snippets. The RStudio interface at the bottom shows a code editor with R code and a terminal window.

The screenshot shows a Wix website with a large 'WIX' logo. The page is titled 'Vu & Harrington course' and contains sections for 'R programs', 'R program', 'R programs', 'Chapter 4: HTML', 'Chapter 4: Read', 'Chapter 5: HTML', 'Chapter 5: Read', 'Chapter 6: HTML', 'Chapter 6: Read', and an 'Online book'. There are also three columns of green boxes labeled 'Slides (PDF)', 'Slides (PPT)', and 'Slides (Read)' for each chapter. A blue arrow points downwards from the Wix logo towards the list of bullet points below.

- HRML: RPus.
- Rmd: GitHub.

What would we like to do this workshop ?

# Step 1: laptop to RPubs

```

1 <-
2   output:
3     bookdown::html_document2:
4       toc: TRUE
5       toc_depth: 2
6       number_sections: no
7       css: ./lib/stylesarial.css
8       code_folding: hide
9
10  params:
11    dep_label: "set-BioStat"
12    font_size: "10" > ## Foundations for inference using R</font>
13    author: "Ziv Shkedy and Thi Huyen Nguyen based on ""Chapter 4"" in the book of
14      Julie Vu and Dave Harrington "Introductory Statistics for the Life and Biomedical Sciences<br>". https://www.openintro.org/book/biostat/">
15
16  <!--
17  -->
18  
```

R is a collaborative project with many contributors.  
Type 'contributors()' for more information and  
'citation()' on how to cite R packages in publications.  
Type 'demo()' for some demos, 'help()' for on-line help, or  
'?start()' for an HTML browser interface to help.  
Type 'q()' to quit R.

[workspace loaded from C:/ziv/\_Temp\_2023/Workshop\_Vietnam\_2023/ShortCourse/OnlineBook/RData]

1. Variability in estimates

2. Standard error of the mean

3. Confidence intervals

4. Hypothesis testing

5. Hypothesis testing and confidence intervals

6 Decision error (Type I and Type II error)

Ziv Shkedy and Thi Huyen Nguyen based on Chapter 4 in the book of Julie Vu and Dave Harrington Introductory Statistics for the Life and Biomedical Sciences (<https://www.openintro.org/book/biostat>)

## Foundations for inference using R

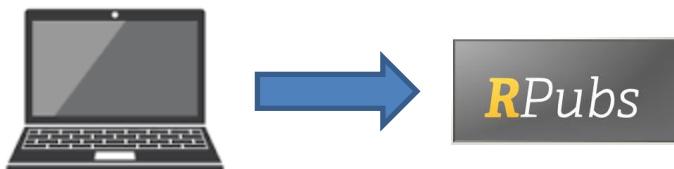
1. Variability in estimates

1.2 A point estimate for the population parameter

A natural way to estimate features of the population, such as the population mean  $\mu$ , is to use the corresponding summary statistic calculated from the sample. For example, the sample mean  $\bar{X}$  is a point parameter estimate for the population (unknown) mean  $\mu$  and the sample variance  $s^2$  is a point parameter estimate for the population variance  $\sigma^2$ .

1.3 Example: the wind speed in the airquality dataset

## Our workshop:



1. Variability in estimates

2. Standard error of the mean

3. Confidence intervals

4. Hypothesis testing

5. Hypothesis testing and confidence intervals

6 Decision error (Type I and Type II error)

Ziv Shkedy and Thi Huyen Nguyen based on Chapter 4 in the book of Julie Vu and Dave Harrington Introductory Statistics for the Life and Biomedical Sciences (<https://www.openintro.org/book/biostat>)

## Foundations for inference using R

1.2 A point estimate for the population parameter

A natural way to estimate features of the population, such as the population mean  $\mu$ , is to use the corresponding summary statistic calculated from the sample. For example, the sample mean  $\bar{X}$  is a point parameter estimate for the population (unknown) mean  $\mu$  and the sample variance  $s^2$  is a point parameter estimate for the population variance  $\sigma^2$ .

1.3 Example: the wind speed in the airquality dataset

Data and point estimates

The airquality dataset gives information about 153 daily air quality measurements in New York, May to September 1973.

# Step 2: Rpubs & Website

The screenshot shows an R Markdown document titled "Foundations for inference using R". It includes a sidebar with navigation links and a main content area with R code and its output. The code reads a dataset from a URL and prints the first six rows.

```
26-03-2025 ->R-Digital

1. Variability in estimates
2. Standard error of the mean
3. Confidence intervals
4. Hypothesis testing
5. Hypotheses testing and confidence intervals
6 Decision error (Type I and Type II error)

Foundations for inference using R

Zé Shady and Thi Huynh Nguyen based on Chapter 4 in the book of Julie Vu and Dave Harrington Introductory Statistics for the Life Sciences (https://www.openstax.org/books/lifesci)
```

1. Variability in estimates

1.2 A point estimate for the population parameter

A point estimate is an estimation of the population, sum of all possible measurements. To use the corresponding summary statistic calculated from the sample, for example, the sample mean  $\bar{x}$  is a point parameter estimator for the population (unknown) mean  $\mu$  and the sample variance  $s^2$  is a point parameter estimator for the population variance  $\sigma^2$ .

1.3 Example: the wind speed in the airquality dataset

Data and point estimates

The airquality dataset gives information about 153 daily air quality measurements in New York, May to September 1973.

```
## [1] 333 6
```

The first 6 lines of the dataset are shown below

```
## [1] 333 6
```

The screenshot shows a Wix website for a statistics course. The page features a header with the Wix logo and a message about the website being created on Wix. Below this is a section for "External datasets are available in the data repository". The main content area is a grid of download links for different chapters, each with a progress bar indicating completion.

WIX | This website was built on Wix. Create yours today. [Get Started](#)

External datasets are available in the data repository:

Slides (PDF) Chapter 4	Slides (PDF) Chapter 5	Slides (PDF) Chapter 6
Slides (PPT) Chapter 4	Slides (PPT) Chapter 5	Slides (PPT) Chapter 6
10 progress	10 progress	10 progress

Recommended reading for the classes about inference for one and two populations and for inference of categorical data are Chapter 4, Chapter 5 and Chapter 6 & the book "Introductory statistics for the life and behavioral sciences" respectively, which is available online.

Chapter 4 HTML Chapter 4 Read	Chapter 5 HTML Chapter 5 Read	Chapter 6 HTML Chapter 6 Read
Online book		

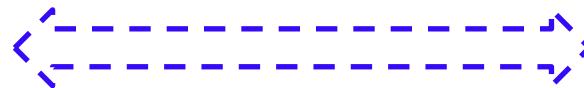
This part of the course is based on unit 5 in Vu & Harrington course and it covers the following topics:

- Inference for one population.
- Point estimate and interval estimates.
- Inference for paired data
- Inference for independent samples

Slides (PDF) Unit 4	Slides (PDF) Unit 5	Slides (PDF) Unit 6
Slides (PPT) Unit 4	Slides (PPT) Unit 5	Slides (PPT) Unit 6
10 progress	10 progress	10 progress

This part of the course is based on unit 6 in Vu & Harrington course and it covers the following topics:

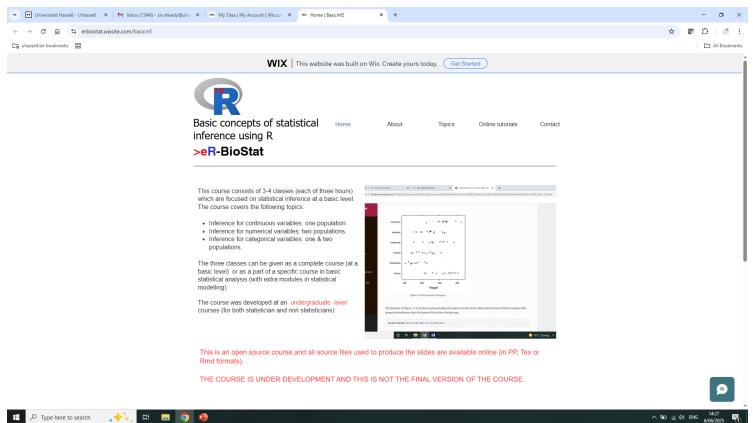
- Categorical outcome and chi-square tests
- Binary outcome and test for proportions



What would we like to do this workshop ?

# Global to local

<https://erbiostat.wixsite.com/basicinf>



A global website.  
Content: Ziv Shkedy.

Create your own  
website and use it in  
your university/course

A local website.  
Content: You !!!

# Example 1: a local website of Karatina Uni.

Screenshot of a web browser showing a Wix-built website for the Department of Mathematics, Statistics and Actuarial Science at Karatina University. The page includes navigation links, a logo, and sections for basic and advanced courses.

The browser tabs show:

- Universiteit Hasselt - UHasselt
- Inbox (7,645) - ziv.shkedy@uhasselt.be
- My Sites | My Account | Wix.com
- Home | KARDSA1

The main content area shows:

**Karatina University: Department of Mathematics, Statistics and Actuarial Science**

Navigation menu:

- Home (highlighted)
- About
- Basic in DS & A
- Advanced
- Contact

E-learning system:  
Data Science and Analytics

Welcome to the 2025 edition of the E-learning system in data science & analytics of the Department of Mathematics, Statistics and Actuarial science in Karatina University, Kenya. This website provides course materials for students in the bachelor program of Data science and analytics.

This website was developed as a part of the collaboration of the **>eR-BioStat** initiative.

**vliruos**  
sharing minds, changing lives

**KARATINA UNIVERSITY**  
*Inspiring Innovation and Leadership*

**About**

General information about the E-learning program in Data science and analytics , courses and course materials and the

**Basic courses DS & A**

This page provides all information and links for basic courses that are currently available as a part of the E-

**Advanced courses in DS & A**

This page provides information and links for advanced courses that are currently available as a part of the E-learning

Bottom status bar:

- Type here to search
- Icons for File, Print, Copy, Paste, Find, Replace, Undo, Redo, and others.
- Language: ENG
- Date: 6/06/2025
- Time: 14:55

<https://erbiostat.wixsite.com/karadsa1>

# Karatina's website for data science and analytic

Screenshot of a web browser showing a Wix website for Karatina University's Department of Mathematics, Statistics and Actuarial Science.

The browser tabs show:

- Universiteit Hasselt - UHasselt
- Inbox (7,645) - ziv.shkedy@uhasselt.be
- My Sites | My Account | Wix.com
- Basic in DS & A | KARDSA1

The main content area shows:

**WIX** | This website was built on Wix. Create yours today. [Get Started](#)

## Karatina University: Department of Mathematics, Statistics and Actuarial Science

E-learning system:  
Data Science and Analytics

---

### Basic courses in data science and analytics

The following courses are developed for BSc program in data science and analytics in Karatina University. Courses include:

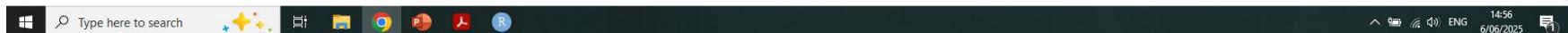
- Introduction to R programming.
- Basic statistical inference.
- Introduction to statistical modelling using R:
  - Simple linear regression.
  - Simple logistic regression.
  - One-way ANOVA.

All courses materials are available online.



All the materials are available in html, Rmd and PDF formats

Feedback icon: A blue speech bubble icon with a white 'E' inside.



# Karatina's website for data science and analytic

A local website.

The screenshot shows a Wix website titled "Basic in DS & A | KARDSA1". The page header includes the Wix logo and a "Get Started" button. Below the header, there is a banner image of a university building. The main content area features two course sections: "Basic programming in R" and "Basic statistical inference". Each section has a brief description, a list of topics, and a "Course materials" button. A red arrow points from the "Basic statistical inference" section towards the "Course materials" button in the "Basic programming in R" section. The website is displayed in a Microsoft Edge browser window, with various tabs and icons visible at the top and bottom of the screen.

WIX | This website was built on Wix. Create yours today. [Get Started](#)

One-way ANOVA

All courses materials are available online.



All the materials are available in html, Rmd and PDF formats

---

**Basic programming in R**

In this course we discuss basic topics in R programming from a user point of view. This part is developed to give you the basic skills that you need for an advanced usage of R. The topics that we cover in this course include:

- Basic programming in R: objects in R
- Reading external datasets
- Programming in R: a for loop
- Programming in R: user functions
- Application of a for loop.
- The Tidyverse.
- The ggplot2 R package.

[Course materials](#)

**Basic statistical inference**

This course covers basic topics in statistical inference for numerical and categorical data. Topics that are covered in the course include:

- Point estimation.
- Distribution of the sample mean.
- Inference for one population.
- Inference for two populations.

All examples are illustrate using R.

[Course materials](#)

# Course's website

Universiteit Hasselt - UHasselt | Inbox (7,645) - ziv.shkedy@uhasselt.be | My Sites | My Account | Wix.com | Basic in DS & A | KARDSA1 | Home | BasicInf2

erbiostat.wixsite.com/basicinf2

uhasselt.be bookmarks

All Bookmarks

WIX | This website was built on Wix. Create yours today. [Get Started](#)

 Basic concepts of statistical inference using R

[Home](#) [About](#) [Topics](#) [Online tutorials](#) [Contact](#)

**>eR-BioStat**

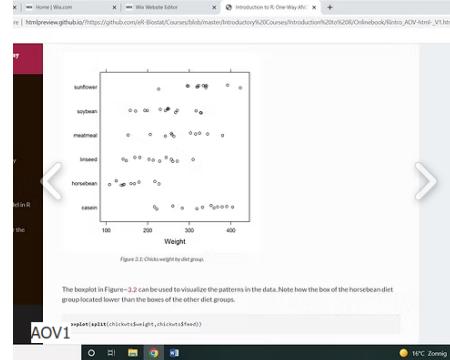
---

This course consists of 3-4 classes (each of three hours) which are focused on statistical inference at a basic level. The course covers the following topics:

- Inference for continuous variables: one population.
- Inference for numerical variables: two populations.
- Inference for categorical variables: one & two populations.

The three classes can be given as a complete course (at a basic level) or as a part of a specific course in basic statistical analysis (with extra modules in statistical modelling).

The course was developed at an [undergraduate level](#) courses (for both statistician and non statisticians).

  
Figure 3.2: Chick weight by diet group.  
The boxplot shows chick weight (g) on the x-axis (100 to 400) and diet group on the y-axis. The groups are ordered from highest to lowest weight: sunflower, soybean, meatmeal, linseed, horsebean, and casein. The horsebean group has the lowest median weight and the largest spread, with many outliers below the box.

AOV1  
`replacelist(split(chickens$weight, chickens$diet))`

This is an open source course and all source files used to produce the slides are available online (in PP, Tex or Rmd formats).

THE COURSE IS UNDER DEVELOPMENT AND THIS IS NOT THE FINAL VERSION OF THE COURSE.



# Example 2: a local website of Moi Uni.

Screenshot of a web browser showing a local website for Moi University's Department of Mathematics, Physics and Computing, School of Science and Aerospace Studies. The website is built on Wix and features a yellow navigation bar with links to Home, About, BioStat & DS, Health Science, and Contact. The main content area includes a welcome message, a logo, and sections for the E-learning system and courses in Biostatistics.

University Hasselt - UHasselt | Inbox (7,645) - ziv.shkedy@uhasselt.be | My Sites | My Account | Wix.com | Home | MOIEL1

erbiostat.wixsite.com/moiel1

uhasselt.be bookmarks

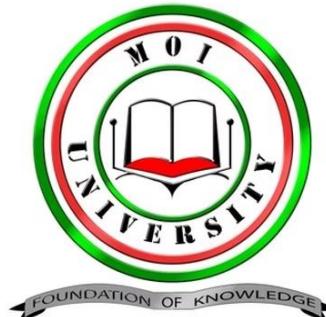
WIX | This website was built on Wix. Create yours today. Get Started

Moi University: Department of Mathematics, Physics and Computing, School of Science and Aerospace Studies

E-learning system:  
Biostatistics

Welcome to the 2024 edition of the E-learning system in Biostatistics/statistics & data science of the Department of Mathematics, Physics and Computing, School of Science and Aerospace Studies in Moi University, Kenya. This website provides course materials for students in Biostatistics & data science and students in Epidemiology and Public health.

This website was developed as a part of the collaboration of the >eR-BioStat initiative.



About

Courses in Biostatistics

Course in Epidemiology & Public Health

General information about the E-learning program in Biostatistics/Statistics, courses and course materials and the study methods used in E-learning system.

This page provides all information and links for courses that are currently available as a part of the E-learning

This page provides information and links for courses that are currently available as a part of the E-learning program for students in

Type here to search

14:58  
6/06/2025

ENG

53

<https://erbiostat.wixsite.com/moiel1>

# A local website of Moi Uni.

Universiteit Hasselt - UHasselt | Inbox (7,645) - ziv.shkedy@uhasselt.be | My Sites | My Account | Wix.com | BioStat & DS | MOIEL1

erbiostat.wixsite.com/moiel1/biostat-ds

uhasselt.be bookmarks All Bookmarks

**WIX** | This website was built on Wix. Create yours today. [Get Started](#)

UNIVERSITY

- Introduction to R programming.
- Basic statistical inference.
- Introduction to statistical modelling using R:
  - Simple linear regression.
  - Simple logistic regression.
  - One-way ANOVA.

All courses materials are available online.



All the materials are available in html, Rmd and PDF formats

**Basic programming in R**

In this course we discuss basic topics in R programming from a user point of view. This part is developed to give you the basic skills that you need for an advanced usage of R. The topics that we cover in this course include:

- Basic programming in R: objects in R
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- Programming in R: a for loop
- Programming in R: user functions
- Application of a for loop.
- The Tidyverse.
- The ggplot2 R package.

**Basic statistical inference**

This course covers basic topics in statistical inference for numerical and categorical data. Topics that are covered in the course include:

- Point estimation.
- Distribution of the sample mean.
- Inference for one population.
- Inference for two populations.

All examples are illustrate using R.

[Course materials](#)

[Course materials](#)

14:58 6/06/2025

Type here to search

14:58 6/06/2025

ENG

Feedback icon

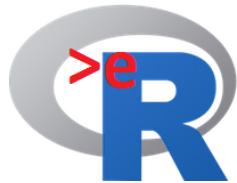
# Why local ?

- The developer (you) has a complete control on the content.
- Tailored a course for your need.
- Add new (and relevant examples) in a course.
- Add a new course.

Which account do you need for this system ?

# To go local....

	Platform	Why
1	RPubs 	To upload HTML online
2	GitHub 	To upload and store PDF, HTML, R programs etc online
3	WIX 	To develop a website
4	R studio/ R markdown 	To develop and produce content



ITP 7: 13/07/25-19/07/25

Workshop's website

<https://erbiostat.wixsite.com/itp3>



# ITP7's website

WIX | This website was built on Wix. Create yours today. [Get Started](#)

HOME ABOUT SCHEDULE CONTACT

An >eR-BioStat ITP workshop:  
Machine learning for real world data and  
the >eR-BioStat platform

Organized jointly by the Moi University and the  
>eR-BioStat ITP project

Moi University, Kenya  
06/10/24-12/10/24 & 13/07/25-19/07/25

<https://erbiostat.wixsite.com/itp3>

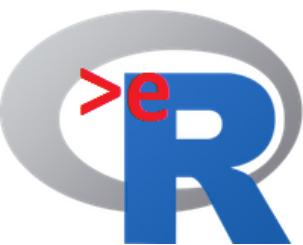


# Structure of ITP7

Day 1 13/07	Day 2 14/07	Day 3 15/07	Day 4 16/07	Day 5 17/07	Day 6 18/07	Day 7 19/07
Platform training	ML training	ML training	ML training	Platform training	Platform training	Platform training

+ Online meeting after the workshop

- First 3 days: ML training.
- Platform training.



# The workshop structure

A screenshot of a web browser displaying a Wix website for a workshop schedule. The URL in the address bar is [erbiostat.wixsite.com/itp3](https://erbiostat.wixsite.com/itp3). The page features a light green background with a sidebar on the right containing four small blue circles. The main content includes a header with a blue square icon and the text 'NEW-CLICK'. A navigation menu at the top right includes links for HOME, ABOUT, SCHEDULE, and CONTACT. The central content area is titled '/ SCHEDULE (ITP7 - 2025)' in large blue text. Below this, a red text link reads 'A link to all workshop materials is available here' followed by the instruction '(scroll down to the bottom of the page)'. The schedule is organized into three days: '13/07' (Sunday), '14/07-16/07' (multiple days), and '17/07' (Thursday). Each day section contains a list of activities. At the bottom of the page, there is a dark taskbar with icons for the Start button, search, and various applications like File Explorer, Google Chrome, and Microsoft Edge. The system tray shows battery status, signal strength, and the date/time (10/07/2025, 5:34 PM).

WIX | This website was built on Wix. Create yours today. [Get Started](#)

NEW-CLICK

HOME ABOUT SCHEDULE CONTACT

## / SCHEDULE (ITP7 - 2025)

A link to all workshop materials is available [here](#)  
(scroll down to the bottom of the page)

### 13/07

Sunday

- Lunch.
- Welcome & Introduction.
- The eR-BioStat ITP project: current status and progress.
- Expectation and tasks for 17/07/25, 18/07/25 & 19/07/25

### 14/07-16/07

- Training course in statistics and data science: Machine learning for real world data

### 17/07

Thursday

Morning

Type here to search

5:34 10/07/2025 ENG



# Structure of ITP7

Day 1 13/07	Day 2 14/07	Day 3 15/07	Day 4 16/07	Day 5 17/07	Day 6 18/07	Day 7 19/07
Platform training	ML training	ML training	ML training	Platform training	Platform training	Platform training

+ Online meeting after the workshop



- Platform training:
  - How to create your own course ?
  - How to create your own website ?



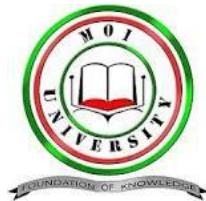
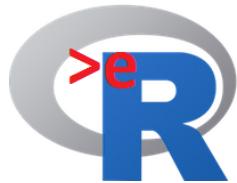
# Structure of ITP7

Day 1 13/07	Day 2 14/07	Day 3 15/07	Day 4 16/07	Day 5 17/07	Day 6 18/07	Day 7 19/07
Platform training	ML training	ML training	ML training	Platform training	Platform training	Platform training

+ Online meeting after the workshop

- Bernard, Rudradev & Ziv:
  - R-Studio, R markdown.
  - How to create content using R ?

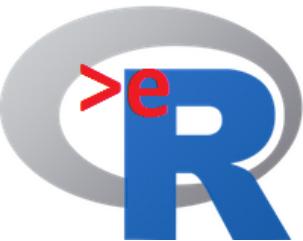
Introduction.



Where to find the workshop's materials ?

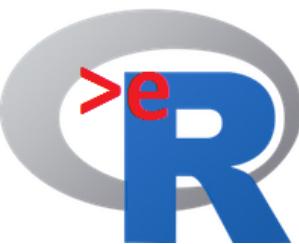
Workshop's website

<https://erbiostat.wixsite.com/itp3>



# The ISDSS2025 courses' materials

- We do not print materials.
- All online:
  - Slides.
  - R programs.
  - ...



# ITP7's website

<https://erbiostat.wixsite.com/itp3>

The screenshot shows a Microsoft Edge browser window displaying the website <https://erbiostat.wixsite.com/itp3>. The page is titled "SCHEDULE (ITP7 - 2025)". A red arrow points from the text "A link to all workshop materials is available here" to the word "here". Below the schedule, there are three days listed: 13/07, 14/07-16/07, and 17/07, each with a list of activities.

WIX | This website was built on Wix. Create yours today. [Get Started](#)

NEW-CLICK

HOME ABOUT SCHEDULE CONTACT

## SCHEDULE (ITP7 - 2025)

A link to all workshop materials is available here (scroll down to the bottom of the page).

13/07

Sunday

- Lunch.
- Welcome & Introduction.
- The eR-BioStat ITP project: current status and progress.
- Expectation and tasks for 17/07/25, 18/07/25 & 19/07/25

14/07-16/07

- Training course in statistics and data science: Machine learning for real world data

17/07

Thursday

Morning

Type here to search

5:37 10/07/2025



# The eR-BioStat website (online materials)

A screenshot of a web browser window displaying the eR-BioStat website. The address bar shows the URL <https://erbiostat.wixsite.com/itpb0>. The page header includes the Wix logo and a message stating "This website was built on Wix. Create yours today." with a "Get Started" button. On the left, a sidebar menu lists "The eR-BioStat ITP", "Home", "Online materials", "The eR-BioStat", "About Us", and "Contact". The main content area features a green-to-orange gradient background. It displays logos for VLIR-UOS, M.O.T. University, DSI Data Science Institute, and UHASSELT. Below the logos, text reads "The VLIR-UOS INTERNATIONAL TRAINING PROGRAM: The eR-BioStat ITP: Development of local E-learning platforms in (bio)statistics." At the bottom, the years "2023-2026" are shown.

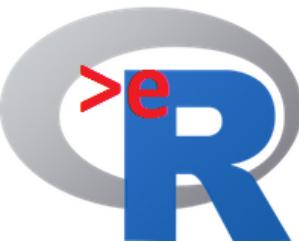
## Online materials for the Workshops & Short Courses

20/02/24-23/02/24

International symposium on current trends in modeling  
and software development in data science and



<https://erbiostat.wixsite.com/itpb0>



# The eR-BioStat website (online materials)

Screenshot of the eR-BioStat website on a Wix platform, showing online materials for two events. A red box highlights the second event.

**The eR-BioStat ITP**

- Home
- Online materials
- The eR-BioStat
- About Us
- Contact

**WIX | This website was built on Wix. Create yours today.** [Get Started](#)

[Files for Monday 12/05/25 \(Samuel Manda\)](#) [Files for Monday 12/05/25 \(Ziv Shkedy\)](#) [Files for Tuesday 13/05/25 \(Ziv Shkedy\)](#)

[Files for Tuesday 13/05/25 \(Tarylee Reddy\)](#)

[f](#) [t](#)

**29/06/2025-05/07/2025**

International symposium on current trends in modeling and software development in data science and Statistics.  
Pretoria, South Africa

University of Pretoria

[Files for Sunday 29/06/25](#) [Files for Monday 30/06/25](#) [Files for Tuesday 01/07/25](#)

[Files for Wednesday 02/07/25](#)

**13/07/2025-19/07/2025**

Machine learning for real world data and the >eR-BioStat platform,  
Moi University, Kenya

Moi University

[Files for 13/07/25](#) [Files for 14/07/25-16/07/25](#) [Files for 17/07/25-28/07/25](#)

Type here to search

5:38 10/07/2025 ENG

