

Introduction to R 2025

Faculty: Rodolfo Lourenzutti, Ido Hatam

November 6–7, 2025

Contents

I	Introduction	5
1	Workshop Info	7
1.1	Pre-work	7
1.2	Class Photo	7
1.3	Schedule	7
2	Meet Your Faculty	9
II	Modules	11
3	Module 1	13
3.1	Lecture	13
3.2	Lab	13
4	Module 2	15
4.1	Lecture	15
4.2	Lab	15
5	Module 3	17
5.1	Lecture	17
5.2	Lab	17
6	Module 4	19
6.1	Lecture	19
6.2	Lab	19

Part I

Introduction

Chapter 1

Workshop Info

Welcome to the 2025 Vancouver Introduction to R Canadian Bioinformatics Workshop webpage!

1.1 Pre-work

You can find your pre-work here.

1.2 Class Photo

Coming soon!

1.3 Schedule

Chapter 2

Meet Your Faculty

2.0.0.1 Rodolfo Lourenzutti

Associate Professor of Teaching University of British Columbia Vancouver, British Columbia, Canada

— lourenzutti@stat.ubc.ca

Rodolfo Lourenzutti is an Associate Professor of Teaching in the Department of Statistics at the University of British Columbia (UBC) and plays an active role in UBC's Master of Data Science (MDS) program. He holds a Ph.D. in Computer Science and an M.Sc. in Statistics. Rodolfo is passionate about data analysis and information extraction. He is also dedicated to teaching data science to individuals from diverse backgrounds, as he believes that different perspectives lead to varied questions about problems, ultimately enhancing our ability to extract more information from the data.

2.0.0.2 Ido Hatam

Principal investigator Langara College Vancouver, British Columbia, Canada

— ihatam@langara.ca

Dr. Ido Hatam holds a PhD in microbiology and biotechnology from the University of Alberta and serves as an Instructor in the Department of Biology and Bioinformatics program at Langara College, where he is also a Principal Investigator at the College's Applied Research Center. Dr. Hatam has developed multiple courses for the College's Bioinformatics program focused on using R-based tools to analyze high-throughput biological data. His research group uses bioinformatics tools to construct and analyze synthetic microbial communities,

and specializes in “Guerrilla Bioinformatics” - generating value-added knowledge through meta-analysis of large, publicly available biological datasets.

2.0.0.3 Gareth Tang

Gareth Tang graduated with a Bachelor’s degree in bioinformatics from Langara College in 2025. In his final year of studies, he collaborated with his fellow graduates to implement and benchmark a pipeline performing metagenomics assembly and annotation. In doing so, his cohort was able to apply the R programming skills and knowledge of bioinformatics tools they had developed during the program.

2.0.0.4 Mike Wu

PhD Student UBC Vancouver, BC

— mikewu@langara.ca

Mike Wu is a recent graduate from Langara College with a Bachelor of Science in Bioinformatics. He is now doing his graduate studies at UBC in bioinformatics (specialized in machine learning in metabolomics). Mike has hands-on experience in a couple of bioinformatics projects, including single-cell RNA seq pipeline, metagenomics assembly and annotation, and blastInR package development, where R programming is mainly used for app development, data analysis, and pipeline construction.

2.0.0.5 Gavin Ieong

Richmond, BC, Canada

Gavin Ieong is a recent graduate in the Bachelor’s of Bioinformatics Program at Langara College. During his studies, he contributed to projects at the college’s Applied Research Centre, applying his background in biology and machine learning to real-world biological problems.

Part II

Modules

Chapter 3

Module 1

3.1 Lecture

3.2 Lab

Chapter 4

Module 2

4.1 Lecture

4.2 Lab

Chapter 5

Module 3

5.1 Lecture

5.2 Lab

Chapter 6

Module 4

6.1 Lecture

Module 4 begins at slide 30

6.2 Lab