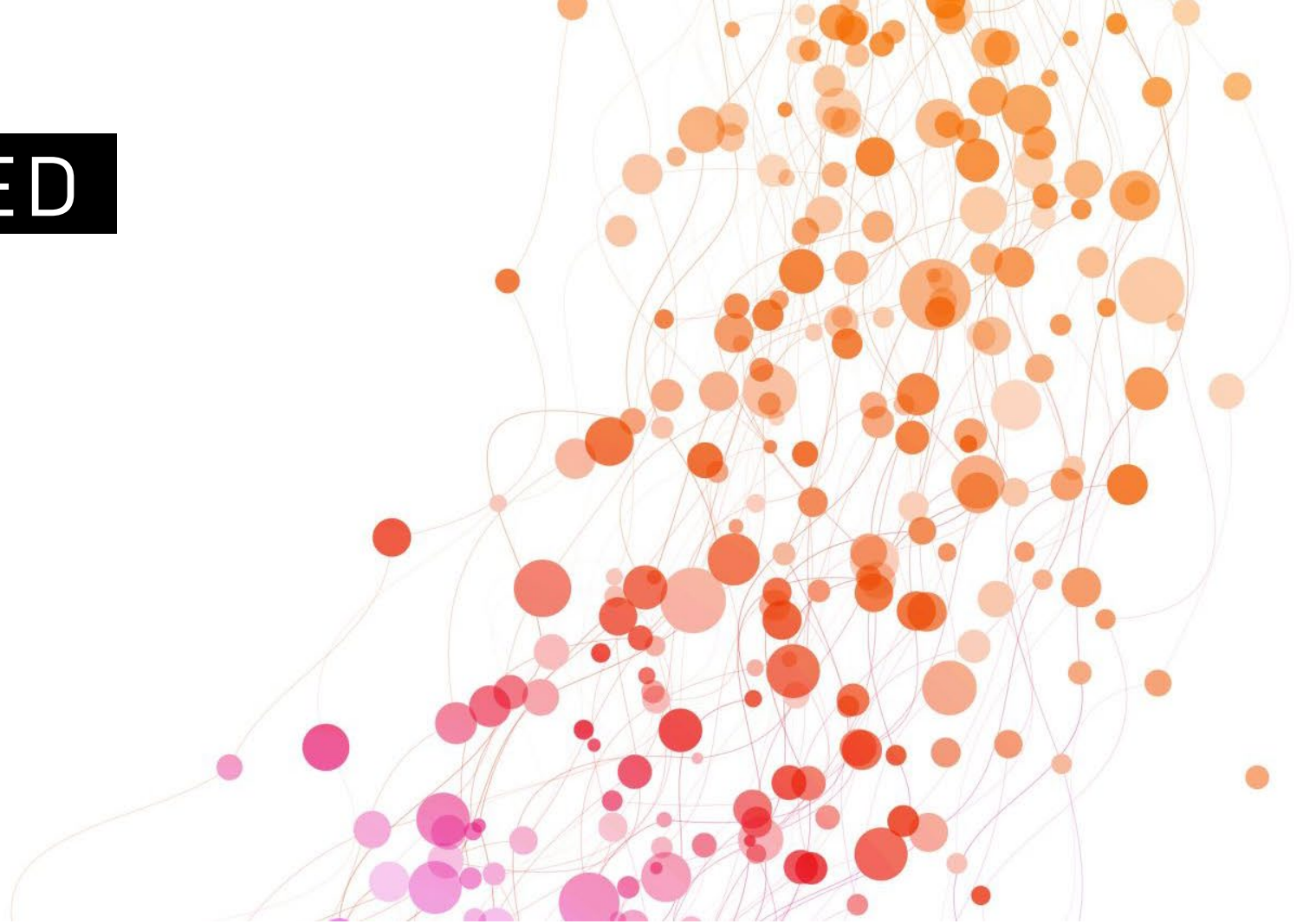


WHAT'S INVOLVED

IN A PHD



THE PROCESS

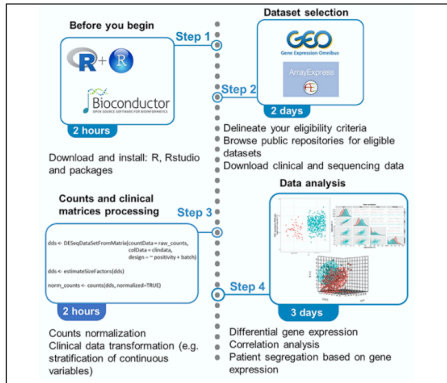
- Propose
- Research
- Write the thesis

THE ACTUAL PROCESS

- Propose
- Research
- Write the thesis
- Collaborate
- Written communication
- Budget
- Grant writing
- Social media
- Network
- Develop technical skills
- Public speaking
- Design
- Plan
- Teach
- Manuscript preparations
- Conferences
- Problem solving

Protocol

Analysis workflow of publicly available RNA-seq datasets



Pablo Sanchis, Rosario Lavignolle, Mercedes Abbate, ..., Javier Cotignola, Juan Bizzotto, Geraldine Gueron

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rosario.lavignolle@gmail.com (R.L.)
ggueron@iqbicn.fcn.uba.ar (G.G.)

Highlights
Publicly available COVID-19 RNA-seq datasets can be analyzed with R-based protocols

This protocol provides a quick and easy way to study gene expression dysregulations

The codes for plotting different types of analytical graphs are described

The present bioinformatic pipeline can be adapted to other datasets

Differential gene expression analysis is widely used to study changes in gene expression profiles between two or more groups of samples (e.g., physiological versus pathological conditions, pre-treatment versus post-treatment, and infected versus non-infected tissues). This protocol aims to identify gene expression changes in a pre-selected set of genes associated with severe acute respiratory syndrome coronavirus 2 viral infection and host cell antiviral response, as well as subsequent gene expression association with phenotypic features using samples deposited in public repositories.

<http://www.aimspress.com/journal/Allergy>

Review

Role of RP105 and A20 in negative regulation of toll-like receptor activity in fibrosis: potential targets for therapeutic intervention

Swarna Bale^{1,2}, John Varga^{1,2} and Swati Bhattacharyya^{1,2,*}

- ¹ University of Michigan Scleroderma Program, USA
- ² Division of Rheumatology, University of Michigan, Ann Arbor, MI 48109, USA

* **Correspondence:** Email: bhattasw@med.umich.edu; Tel: +3125030377; Fax: +3125030994.

Abstract: Toll-like receptors (TLRs) are essential defensive mediators implicated in immune diseases. Tight regulation of TLR function is indispensable to avoid the damaging effects of chronic signaling. Several endogenous molecules have emerged as negative regulators of TLR signaling. In this review, we highlighted the structure, regulation, and function of RP105 and A20 in negatively modulating TLR-dependent inflammatory diseases, and in fibrosis and potential therapeutic approaches.

A Reproducible, Objective Method Using MitoTracker® Fluorescent Dyes to Assess Mitochondrial Mass in T Cells by Flow Cytometry

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Additional Supporting Information may be found at <https://doi.org/10.1002/cyto.a.14111>

Abstract
MitoTracker® dyes are fluorescent compounds that allow cellular mitochondrial content to be measured semi-quantitatively by flow cytometry and have been used extensively in immunology publications. However, the parameters commonly reported, mean or median fluorescence intensity and percentage of cells that are MitoTracker® "high", can be influenced by variability in cytometer setup, dye stability, and operator subjectivity, making it difficult to compare data between experiments. Here, we describe a method to identify MitoTracker® "high" populations in an objective manner. When analyzing data, we first removed outliers using a pre-specified threshold, determined the fluorescence intensity of the brightest and dimmest events to obtain the fluorescence range and then gated cells within the top 90% of this range. This strategy substantially reduced variability between technical replicates and produced consistent results when data were analyzed by different operators. Consistent with previous reports and other analysis strategies, this analysis method demonstrated that within an individual, CD4⁺ T cells exhibit significantly higher mitochondrial mass than CD8⁺ T cells. Objective gating increases the reliability and utility of data generated using MitoTracker® dyes. © 2018 The Authors. *Cytometry Part A* published by Wiley Periodicals, Inc. on behalf of International Society for Advancement of Cytometry.

Key terms
mitochondria; T-lymphocytes; immunologic techniques; metabolism; flow cytometry

CONSTANT LEARNING

NEOPLASIA

Relevance of CD49d protein expression as overall survival and progressive disease prognosticator in chronic lymphocytic leukemia

Valter Gattei,¹ Pietro Bulian,¹ Maria Ilaria Del Principe,² Antonella Zucchetto,¹ Luca Maurillo,² Francesco Buccisano,² Riccardo Bomben,¹ Michele Dal-Bo,¹ Fabrizio Luciano,² Francesca M. Rossi,¹ Massimo Degan,¹ Sergio Amadori,² and Giovanni Del Poeta²

¹Clinical and Experimental Onco-Hematology Unit, Centro di Riferimento Oncologico, Istituto di Ricovero e Cura a Carattere Scientifico (IRCCS), Aviano; and ²Department of Hematology, S. Eugenio Hospital and University of Tor Vergata, Rome, Italy







CONSTANT LEARNING









- Other people
 - Supervisors
 - Staff
 - Other PhD Students
 - External collaborators
- Making mistakes (lots)

























WRITING THE THESIS

- Leave enough time
- It will be rewritten and rewritten...

Name	
 General discussion offcuts and notes.docx	✓
 V1. General discussion.docx	✓
 V1.1 2023.07.18 Thesis General discussion.docx	✓
 V2. 2023.07.24 Thesis General discussion NP KE.docx	✓
 V3. 2023.07.24 Thesis General discussion (restructured).docx	✓
 V4. 2023.08.20 Thesis General discussion (restructured).docx	✓

Name
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 V2. 2023.07.19 Final Draft.docx
 V3. 2023.07.19 Final Draft EV.docx
 V3. 2023.07.19 Final Draft.docx
 V4. 2023.08.24 Final Draft.docx
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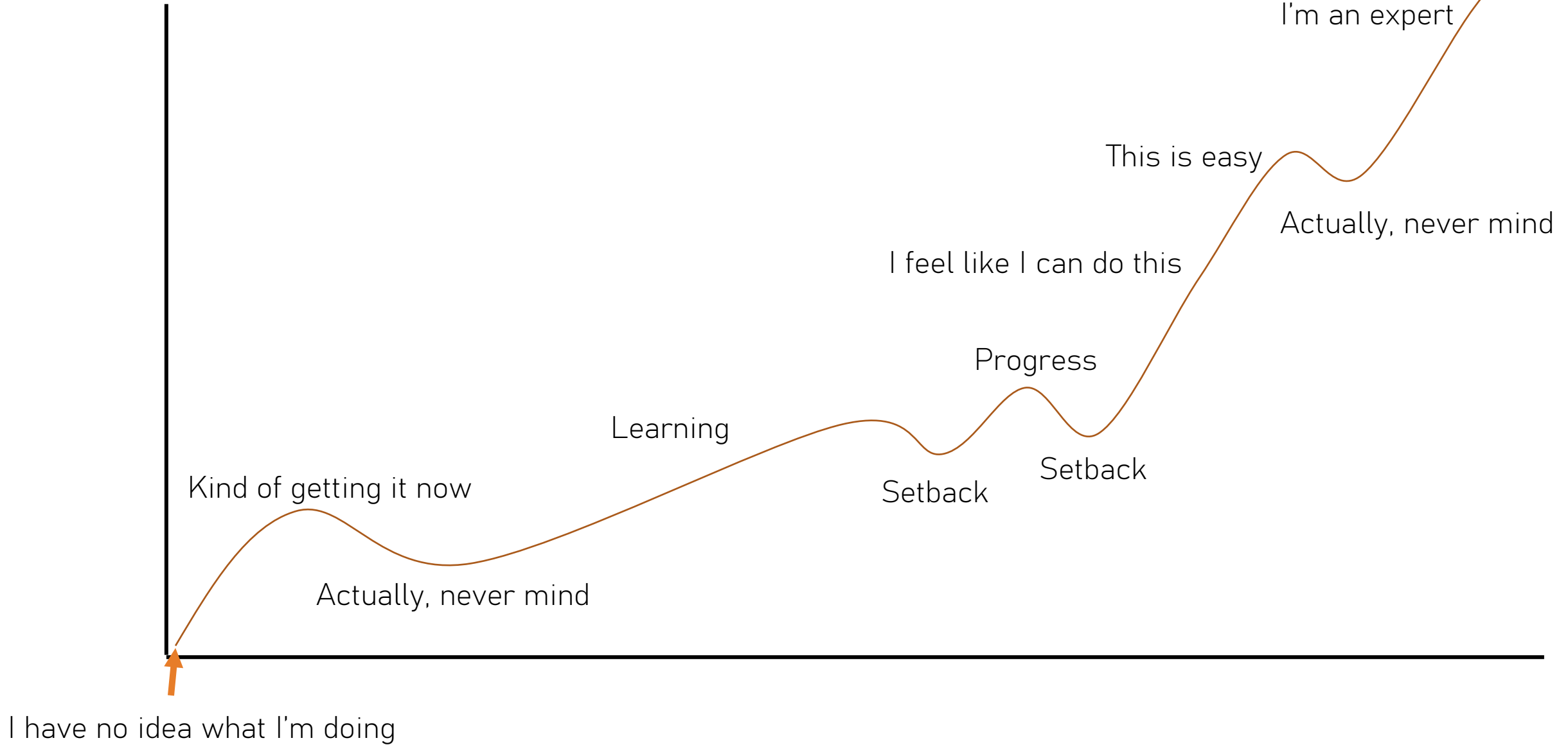
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WRITING THE THESIS

- Leave enough time
- It will be rewritten and rewritten...
- Write a story & go to the DRDP
- Write to help you think
 - [Link](#)

DO EXTRA “STUFF”

- Take part in research outside PhD
- Fund it with university & external grants!
- Join committees & societies
- Organise talks
- Journal clubs
- Work with others – there is freedom in a PhD



OTHER TIPS

- Pick a font/format & stick with it.
- If you think it will take you 1 hour, it'll probably take you two.
- Leave headspace to think (Prof Dwek's tip).
- Be agile & adapt. Things will change!
- Enjoy your first year – it gets progressively more intense.