

Préparée à l'Institut Curie

**THÈSE DE DOCTORAT  
DE L'UNIVERSITÉ PSL**

**From mechanistic modelling of cancer to clinical interpretation and  
impact evaluation**

Soutenue par

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Le 15/09/2020

École doctorale n°515

**Complexité du Vivant**

Spécialité

**Génomique**

Composition du jury :

Test NOM

Titre, Établissement

*Président*

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## Abstract

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**Key-words:**



## Résumé

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**Mots-clés:**



## Acknowledgements

Many persons to thanks. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

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# Part I

## Introduction



## What is a model

*"Inner speech is nothing but speech to oneself"*  
*Sokolov, A. N. (1972)*

This is a test

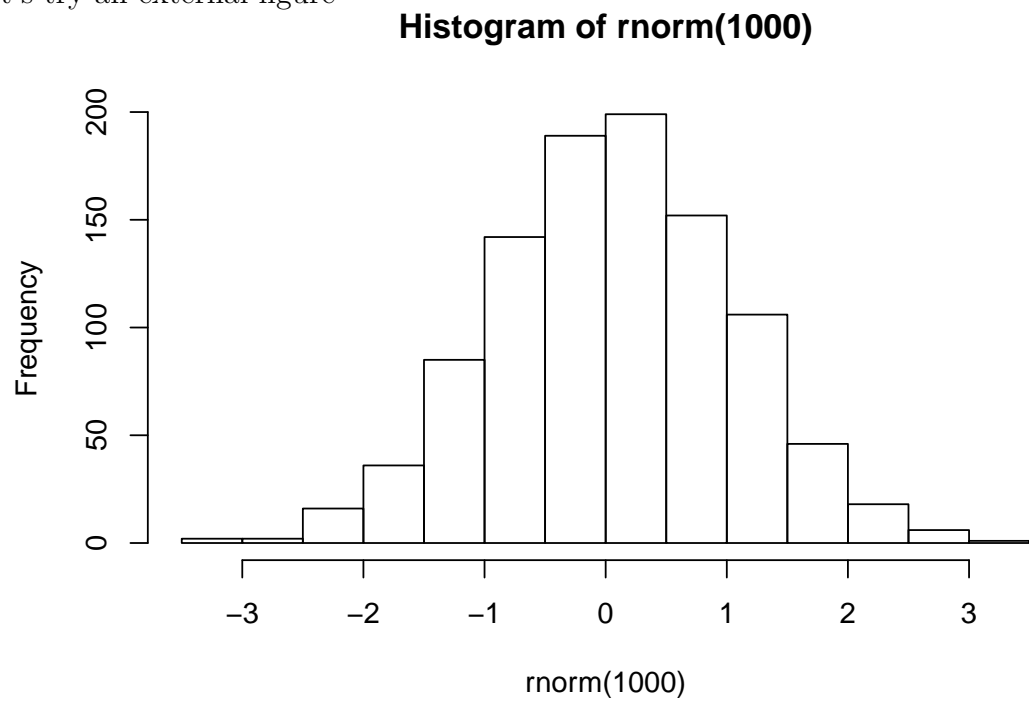
### 1.1 Abc

Bla bla is



## 1.2 Cde

Let's try an external figure





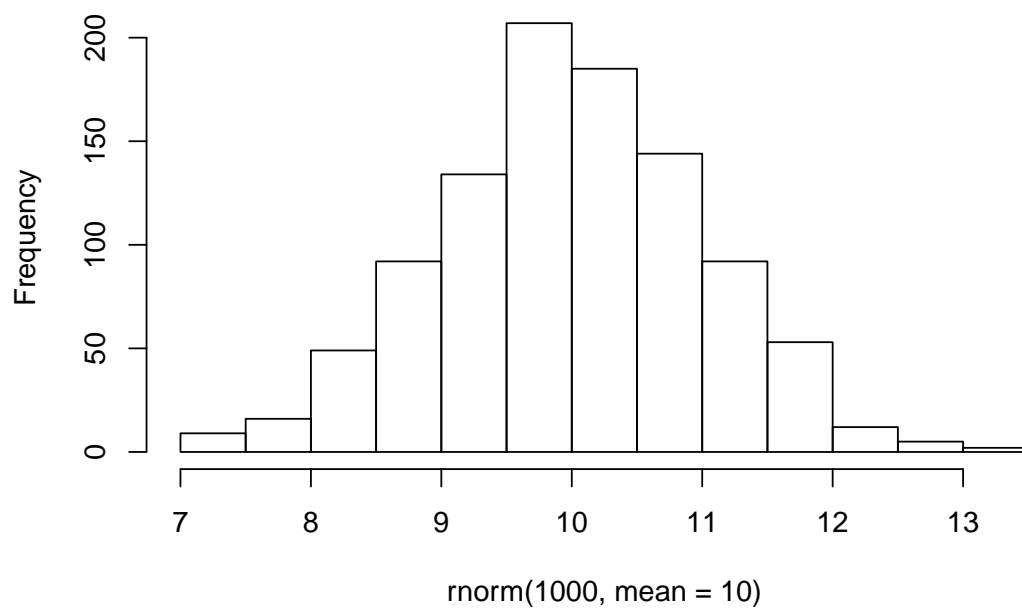
## What is cancer

This is a test

### 2.1 Abc

Bla bla

**Histogram of `rnorm(1000, mean = 10)`**





# CHAPTER 3

## Test part

This is a test

### 3.1 Abc

Bla bla ref Miskovic et al. [2019] and [Miskovic et al., 2019].

But in Béal et al. [2019] we have the Figure 3.1 as referenced in Chapter 3

```
par(mar = c(4, 4, .1, .1))  
plot(pressure, type = 'b', pch = 19)
```

And an external figure 3.2

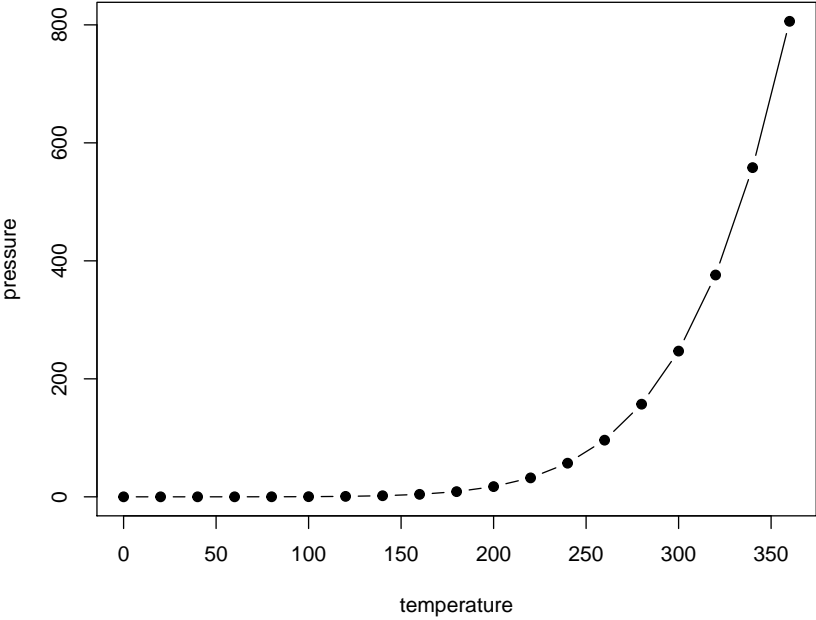


Figure 3.1: Here is a nice figure!



Figure 3.2: Example pic

## Bibliography

- Jonas Béal, Arnau Montagud, Pauline Traynard, Emmanuel Barillot, and Laurence Calzone. Personalization of Logical Models With Multi-Omics Data Allows Clinical Stratification of Patients. *Frontiers in Physiology*, 2019. ISSN 1664-042X. doi: 10.3389/fphys.2018.01965. URL <https://www.frontiersin.org/article/10.3389/fphys.2018.01965/full>.
- Ljubisa Miskovic, Jonas Béal, Michael Moret, and Vassily Hatzimanikatis. Uncertainty reduction in biochemical kinetic models: Enforcing desired model properties. *PLoS Computational Biology*, 2019. ISSN 15537358. doi: 10.1371/journal.pcbi.1007242. URL <https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1007242>.





## RÉSUMÉ

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Cuius acerbitati uxor grave accesserat incentivum, germanitate Augusti turgida supra modum, quam Hannibaliano regi fratris filio antehac Constantinus iunxerat pater, Megaera quaedam mortalis, inflammatrix saevientis adsidua, humani cruoris avida nihil mitius quam maritus; qui paulatim eruditiores facti processu temporis ad nocendum per clandestinos versutosque rumigerulos conpertis leviter addere quaedam male suetos falsa et placentia sibi discentes, adfectati regni vel artium nefandarum calumnias insontibus adfligebant.

## MOTS CLÉS

---

Caesar licentia post honoratis haec adhibens urbium honoratis nullum Caesar.

## ABSTRACT

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Verum ad istam omnem orationem brevis est defensio. Nam quoad aetas M. Caeli dare potuit isti suspitioni locum, fuit primum ipsius pudore, deinde etiam patris diligentia disciplinaque munita. Qui ut huic virilem togam dedit nihil dicam hoc loco de me; tantum sit, quantum vos existimatis; hoc dicam, hunc a patre continuo ad me esse deductum; nemo hunc M. Caelium in illo aetatis flore vidit nisi aut cum patre aut mecum aut in M. Crassi castissima domo, cum artibus honestissimis erudiretur.

## KEYWORDS

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Delatus delatus nominatus onere aut trahebatur quod tenus et bonorum.