

# Literate Programming

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LIG/Inria – POLARIS

January 2017



# Introduction

Literate Programming (according to D. Knuth)

- Explain the program logic using natural language
- Imagine that **another person** will read it and try to understand
  - “another person” can be yourself, in a near future

Concept can be applied in other contexts

- Statistical analysis
- Big data exploration
- *anything that involves coding and interpretation*

Let me show you some examples (using Emacs + OrgMode)

- Investigating observation intrusion
- Prototyping *non-traditional* visualization
- Random notes in my daily journal

# Demonstration and Hands-on (TD3)

Let's do it using RStudio (using knitr + R)

- Live demonstration with synthetic data
- Then, do it yourself with “real” data
  - Ping-pong measurements for different message sizes
  - Geophysics iteration duration

Goals of TD3

- Incorporate the spirit of literate programming
- Basic statistical concepts (using R)
  - Mean, Median, Min, Max
  - Histograms, boxplots, summary
- How to interact with RStudio (and get a nice looking PDF/HTML)