

# Introduction to MAQAO

Pierre Aubert



# What is MAQAO ?

It is a set of tools which use CPU emulation.

**Maqao** documentation (<http://www.maqao.org/>)



- ▶ **Debugging** informations :
  - ▶ To check the allocation/deallocation
  - ▶ To check the memory read/write
- ▶ **Profiling** informations :
  - ▶ To evaluate the time spent in each function of a program
  - ▶ To find the hot spots in a program
  - ▶ Branch-prediction
  - ▶ Heap usage

# Aim of this tutorial

- ▶ How to evaluate a program with **maqao's cqa** tool ?
  - ▶ **cqa** : **C**ode **Q**uality **A**nalysér
  - ▶ **C**heck compiler work
  - ▶ **S**tatic binary analysis (without code execution)
  - ▶ **U**nderstanding/**U**sing report of binary analysis
  - ▶ **H**ints/**T**ricks to improve performances
- ▶ On a **Hadamard** product
- ▶ **C**ross-**C**heck with performance evaluation tests

