

# MadGraph Tutorial

# I. Using The web

- Register

- As School indicates "Natal12"

- Otherwise you will be rejected!!!

## II. Diagram generation

- Draw by hand the diagram for the following process
  - $g g \rightarrow t \bar{t}$
  - $p p \rightarrow t \bar{t}$
- Compare with MG
  - Do the same for  $p p \rightarrow t \bar{t} j j$

# III. Order

- What's the meaning of the order QED/  
QCD
- What's the difference between
  - $pp \rightarrow tt \sim$
  - $pp \rightarrow tt \sim \text{QED} = 2$
  - $pp \rightarrow tt \sim \text{QED} = 0$

# IV. Generation Syntax

□ Generate the cross-section and the distribution for

$$\square p p > e^+ e^-$$

$$\square p p > z, z > e^+ e^-$$

$$\square p p > e^+ e^- \# z$$

$$\square p p > e^+ e^- / z$$

# V. Large generation

□ generate  $p \gg w + j_j$

# VI. Your computer

- install madgraph5 on your computer
- type `./bin/mg5`
- then type tutorial and follow instructions