



# **55<sup>th</sup> Geant4 Technical Forum :** **Introduction to developers' part**

Marc Verderi

LLR, Ecole polytechnique

20<sup>th</sup> January 2022

# Developers' Presentation Overview



- Geant4 11.0 released on 10th of December 2021
  - Major release
    - Previous major release was 10.0, in 2013, introducing the MT scheme
    - 11.0 introduces in particular a new “tasking model”
      - A renewed, more flexible model than the multithreading one.
    - Many developments (eg: hyper-nuclei) and consolidations happened in physics too
    - New features introduced (eg: possibility for alternative tracking)
  - Today's presentations will expose the content of 11.0:
    - What's new in 11.0: non-physics part, Gabriele Cosmo
    - What's new in 11.0: Electromagnetic physics part, Vladimir Ivantchenko
    - What's new in 11.0: Hadronic physics part, Alberto Ribon
  - Plus the traditional presentation on requirements (Marc)

# Other information



- Important events since last TF meeting (March 2021) :
  - **LHCC Review of HL-LHC Computing**
    - Geant4 reviewed as part of the “HL-LHC Computing Review Stage-2: Common Software Projects”
    - Review process :
      - a ~30 pages document distributed to review panel
      - a closed review session (mixed in person & virtual), on 3<sup>rd</sup> of November 2021 for Geant4
        - Intense and in depth discussion
    - Awaiting conclusions of review panel
  - **LPCC Fast Detector Simulation Workshop**
    - Virtual event, 22<sup>nd</sup> & 23<sup>rd</sup> November 2021
    - <https://indico.cern.ch/event/1087522/>
    - Organized by Alberto Ribon, Anna Zaborowska, Dalila Salamani & Witold Pokorski
    - Presentations grouped by topics (Fast Simulation applicability and accuracy, Tuning, Validation...)
      - rather than classical per-experiment reports
    - Constructive workshop !
    - Agreed to have one such fast simulation workshop per year
    - Some follow-up meeting to come (ML example in G4)
- We plan to hold an other Technical Forum by March
  - To expose and discuss the Geant4 work plan for 2022
  - For minor release 11.1