

Re: Michele Gallinaro, *Curriculum Vitae*

I am an Italian citizen with broad research experience in the field of Experimental High Energy Physics (HEP) acquired over more than 25 years, both in Europe and the United States.

I currently hold a permanent research position of "Investigador Coordenador" at LIP. At LIP, I have been conducting research in the context of the Portuguese participation in the CMS experiment at the Large Hadron Collider (LHC) at CERN. In particular, I have been involved in the study of Standard Model and Beyond the SM processes to exploit the opportunities of the unparalleled energy of the LHC collisions. At LIP, I coordinated the Run1 group activities for physics studies at the LHC (2006-2016). Among other activities, I contributed to the definition of the group's physics research program, and have been submitting research proposals. I have been supervising several students and postdoctoral fellows. Students received good grades in the evaluations of the academic Jury. Our group has been directly involved as main contributor in the preparation of several publications, in their full preparation, from the conception to the final writing. Besides the "physics analyses", I have also been involved in the CMS-TOTEM Precision Proton Spectrometer since its inception; first, I coordinated the physics analysis efforts, and am now coordinating the Timing sub-detector project. Beside my research activity at LIP, I have been fostering closer contacts among the scientific/academic community, through the organization of several activities, such as a series of lectures on LHC physics topics (2008-2014), a few workshops/events, a specialized course on "Physics at the LHC" (2012-present). Furthermore, I have been teaching at University of Lisbon (UL/IST), where I have a position as "Invited Professor" since 2012.

Throughout my career I worked mostly at two research centers in the USA, first at the Stanford Linear Accelerator Center (SLAC) and then at the Fermi National Accelerator Laboratory (Fermilab), undertaking research with two large collaborations, the SLD experiment at SLAC (1988-1991) and the CDF experiment at Fermilab (1992-2006); now at CERN in the CMS experiment (2006-present). During the past 25+ years, my research experience has been rich in scientific achievements, both in terms of detector studies and innovations, as well as data analysis.

I have been pursuing my research interests in HEP since 1988, when I started working at the SLD experiment during my *Laurea* degree ("The SLD Warm Iron Calorimeter: Tuning and Calibration Measurements", University of Rome, 1990). After my graduation, I spent one year at SLAC (1991), which provided an excellent opportunity to conduct basic research and experience first-hand the preparation and commissioning of the experiment. Driven by my scientific interests and the curiosity of understanding the high-energy frontiers at a hadron collider, I moved to Fermilab where I started my collaboration with the CDF experiment in 1992. I recall the work that led to the discovery of the top quark in 1995 as a particularly exciting period of my research activity. My most prominent contribution was the development of an original method for extracting the top quark signal in the dilepton channel. This pioneering work led to the first identification of taus at a hadron collider. Later, I also explored the presence of the Higgs boson in the data.

After my PhD thesis ("Observation of the top quark at CDF in the dilepton channel with electrons, muons and taus", University of Rome, 1996), I joined the University of Pennsylvania as post-doctoral fellow (1997-1999). Later, I held a faculty position as Research Associate at The Rockefeller University (1999-2006). While there, I

undertook the challenging task of coordinating the assembly, installation, and commissioning of the Forward Detectors, a system of detectors mostly aimed at the study of very forward physics.

Throughout the years of my research in HEP, I have acquired strong scientific insight into both experimental detector work and data analysis. Detectors have always been central to experimental research and -at different stages in my career- I worked on various aspects of many sub-detector systems (i.e. Plug calorimeter, Central Preshower, Electromagnetic calorimeter). I published several articles in top peer-reviewed journals and presented my work at numerous international conferences. In actively pursuing leadership roles in the laboratories where I worked, I have provided guidance and training to several junior researchers and students.

List of 10 publications:

- 1) V. Khachatryan et al. [CMS Coll], "Search for a charged Higgs boson in pp collisions at 8TeV," JHEP 11, 018 (2015)
- 2) V. Khachatryan et al. [CMS Coll], "Measurement of the ratio $B(t \rightarrow Wb)/B(t \rightarrow Wq)$," Phys. Lett. B 736, 33 (2014)
- 3) V. Khachatryan et al. [CMS Coll], "Measurement of the $t\bar{t}$ production cross section in pp collisions in dilepton final states containing one tau lepton," Phys. Lett. B 739, 23 (2014)
- 4) M. Albrow et al., "Technical Design Report for the CMS-TOTEM Precision Proton Spectrometer" (CERN-LHCC-2014-021)
- 5) S. Chatrchyan et al. [CMS Coll], "Observation of a new boson at a mass of 125 GeV," Phys. Lett. B 716, 30 (2012)
- 6) S. Chatrchyan et al. [CMS Coll], "Measurement of the $t\bar{t}$ production cross section and the top quark mass in the dilepton channel in pp collisions," JHEP 07, 049 (2011)
- 7) T. Aaltonen et al. [CDF Coll], "Observation of exclusive dijet production at the Fermilab Tevatron ppbar collider," Phys. Rev. D 77, 052004 (2008)
- 8) K. Goulianos et al., "The CDF MiniPlug calorimeters at the Tevatron," NIM A 518, 42 (2004)
- 9) F. Abe et al. [CDF Coll], "The mu-tau and e-tau decays of top quark pairs produced in ppbar collisions," Phys. Rev. Lett. 79, 3585 (1997)
- 10) F. Abe et al. [CDF Coll], "Observation of top quark production in ppbar collisions," Phys. Rev. Lett. 74, 2626 (1995)