

Cesare Bini - Curriculum Vitae.

Born in Jesi (AN) on 21/08/1964. Living in Roma, Via Varsavia 10, 00142. Married, two children.
Web site <http://www.roma1.infn.it/people/bini>

1 Education

- 1983: High School Degree Liceo Scientifico "Leonardo da Vinci", Jesi,
- 1988: Master in Physics Sapienza University, Rome, 110/110 cum laude.
- 1992: Phd in Physics, Sapienza University, Rome
- 1993 - 1994: INFN post-doc fellowship.

2 Academic Appointments

- 1994 - 2004: Research scientist, Physics Department, Sapienza University, Rome
- 2005 -: Associate Professor, Physics Department, Sapienza University, Rome

3 Research Activities

All scientific activities of Cesare Bini have been carried on in the field of the experimental elementary particle physics, within projects founded by National Institute for Nuclear Physics (INFN).

Main fields of interest are: the physics of low-energy e^+e^- collisions, in particular in the region between 1 and 3 GeV center of mass energy, through the strong involvement in the two experiments FENICE and KLOE both at the Frascati National Laboratories of INFN; the physics of proton-proton collisions at the high-energy frontier through the participation at the ATLAS experiment at LHC at CERN.

Strictly connected to these experimental programs, he has also carried on research and development studies on particle detectors, in particular on scintillating fibers calorimeters, and high precision gas detectors.

3.1 Main scientific achievements.

- First measurement of the neutron time-like form factors in the time-like region with the FENICE experiment.
- Measurement of the J/ψ branching ratios in nucleon-antinucleon with the FENICE experiment and first indication of a sizeable relative phase between the strong and the electromagnetic amplitudes.
- Precision measurements of the ϕ radiative decays to scalar mesons with the KLOE experiment and indication of a possible "exotic" nature of the low-mass scalar mesons.
- Measurement of the e^+e^- hadronic cross-section below 1 GeV with the KLOE experiment and evaluation of the hadronic contribution to the muon $g - 2$, that confirms and reinforces the significant discrepancy with the direct measurement of the muon magnetic moment.
- Observation of a bosonic resonance at a mass of 126 GeV in the search for the Higgs boson with the ATLAS experiment at LHC, and study of its principal properties.
- Project, construction and continuous calibration of the KLOE calorimeter.

- Definition of the calibration procedure of the MDT chambers of the ATLAS muon spectrometer.
- First measurement of the response of a lead scintillating fibers calorimeter to neutrons with kinetic energies in the range 10 to 200 MeV.
- Determination of the performance of prototypes of the MicroMegas chambers for the upgrade of the ATLAS muon spectrometer.

3.2 Responsibilities

- 1994 - 1997: Convener of the working group for the extensive test of the KLOE calorimeter
- 1997 - 1998: Editor of the two final papers of the FENICE experiment
- 2000 - 2003: Convener of the calibration working group of the KLOE experiment
- 2001 - 2004: Convener of the "Physics of Phi-Decays" working group of the KLOE experiment
- 2002 - 2006: Corresponding editor of four physics papers of the KLOE experiment
- 2002 - 2008: Member of the Executive Council of the KLOE experiment
- 2005 - 2006: Convener of the "Prospects in e^+e^- physics at LNF" working group within the INFN Road-Map dell'INFN.
- 2006 - 2012: Member of the INFN National Committee for Elementary Particle Physics.
- 2006 - : INFN referee of the TOTEM experiment.
- 2009 - : Convener of the MDT/calibration working group of the ATLAS-Roma1 group
- 2010 - : Member of five Editorial Boards for physics papers of the ATLAS experiment.
- 2011 - : MDT Calibration Expert during data taking of the ATLAS experiment.
- 2012 - : Leader of the ATLAS-Roma1 group, member of the ATLAS Collaboration Board and Team Leader of the ATLAS-Roma1 group at CERN.
- 2013 - : Convener of the MM test-beam analysis Working Group

3.3 Talks and seminars

He has given 25 talks at international conferences, 10 seminars in italian and foreigners institutions and few outreach seminars. He has also given several talks in scientific committes, both national and international. All talks given after 2002 are available at <http://www.roma1.infn.it/people/bini/talks.html>.

3.4 Publications

He is author of about 380 papers on refereed international journals. Citations and bibliometric indications are given in the table below.

Table 1: Citation level and h-index of the 392 publications selected through Isi-Wos (18/03/2014): "self-citations", according to the Isi-Wos definition are excluded.

Number of citations	Number of papers
> 100	11
50 ÷ 100	21
25 ÷ 50	40
< 25	320
Total number of citations	6712
h-index	40

In the following the list of the 20 most significant publications according to the candidate are reported.

1. **Measurement of the electromagnetic form-factor of the proton in the timelike region**
A. Antonelli *et al.*
Phys. Lett. B **334**, 431 (1994)
2. **Measuring the phase of the J/ψ strong decay amplitudes**
R. Baldini, C. Bini and E. Luppi
Phys. Lett. B **404**, 362 (1997)
3. **The first measurement of the neutron electromagnetic form factors in the timelike region**
A. Antonelli *et al.*
Nucl. Phys. B **517**, 3 (1998)
4. **Measurement of $J/\psi \rightarrow N\bar{N}$ branching ratios and estimate of the phase of the strong decay amplitude**
R. Baldini *et al.*
Phys. Lett. B **444**, 111 (1998)
5. **Construction and test of a full-scale prototype of an ATLAS muon spectrometer tracking chamber**
A. Biscossa *et al.*
Nucl. Instrum. Meth. A **425**, 140 (1999)
6. **The KLOE electromagnetic calorimeter**
M. Adinolfi *et al.*
Nucl. Instrum. Meth. A **482**, 364 (2002)
7. **Study of the decay $\phi \rightarrow \eta\pi^0\gamma$ with the KLOE detector**
A. Aloisio *et al.* [KLOE Collaboration]
Phys. Lett. B **536**, 209 (2002) [arXiv:hep-ex/0204012]
8. **Measurements of the absolute branching ratios for the dominant K_L decays, the K_L lifetime, and V_{us} with the KLOE detector**
F. Ambrosino *et al.* [KLOE Collaboration]
Phys. Lett. B **632**, 43 (2006) [arXiv:hep-ex/0508027]
9. **Study of the decay $\phi \rightarrow f_0(980)\gamma \rightarrow \pi^+\pi^-\gamma$ with the KLOE detector**
F. Ambrosino *et al.* [KLOE Collaboration]
Phys. Lett. B **634**, 148 (2006) [arXiv:hep-ex/0511031]
10. **Prospects for e^+e^- physics at Frascati between the ϕ and the ψ**
F. Ambrosino *et al.*
Eur. Phys. J. C **50**, 729 (2007) [arXiv:hep-ex/0603056]
11. **The ATLAS Experiment at the CERN Large Hadron Collider**
G. Aad *et al.* [ATLAS Collaboration].
JINST **3**, S08003 (2008).
12. **Measurement of $\sigma(e^+e^- \rightarrow \pi^+\pi^-\gamma(\gamma))$ and the dipion contribution to the muon anomaly with the KLOE detector**
F. Ambrosino *et al.* [KLOE Collaboration]
Phys. Lett. B **670**, 285 (2009) [arXiv:0809.3950 [hep-ex]]
13. **Study of the $a_0(980)$ meson via the radiative decay $\phi \rightarrow \eta\pi^0\gamma$ with the KLOE detector**
F. Ambrosino *et al.* [KLOE Collaboration]
Phys. Lett. B **681**, 5 (2009) [arXiv:0904.2539 [hep-ex]]
14. **Measurement of the neutron detection efficiency of a 80% absorber - 20% scintillating fibers calorimeter**
M. Anelli *et al.*
arXiv:1004.2241 [physics.ins-det]
Nucl. Instrum. Meth. A **626**, 67 (2011)

15. **Measurement of $\sigma(e^+e^- \rightarrow \pi^+\pi^-)$ from threshold to 0.85 GeV² using Initial State Radiation with the KLOE detector**
 F. Ambrosino *et al.* [KLOE Collaboration]
 Phys. Lett. B **700**, 102 (2011) [arXiv:1006.5313 [hep-ex]]
16. **Measurement of the $W \rightarrow l\nu$ and $Z/\gamma^* \rightarrow ll$ production cross sections in proton-proton collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector**
 G. Aad *et al.* [Atlas Collaboration]
 JHEP **1012**, 060 (2010) [arXiv:1010.2130 [hep-ex]]
17. **Observation of a Centrality-Dependent Dijet Asymmetry in Lead-Lead Collisions at $\sqrt{S_{NN}} = 2.76$ TeV with the ATLAS Detector at the LHC**
 G. Aad *et al.* [Atlas Collaboration]
 Phys. Rev. Lett. **105**, 252303 (2010) [arXiv:1011.6182 [hep-ex]]
18. **Studies of the performance of the ATLAS detector using cosmic-ray muons**
 G. Aad *et al.* [The ATLAS Collaboration]
 Eur. Phys. J. C **71**, 1593 (2011) [arXiv:1011.6665 [physics.ins-det]]
19. **Search for the Standard Model Higgs boson in the decay channel $H \rightarrow ZZ(*) \rightarrow 4l$ with 4.8 fb⁻¹ of pp collision data at $\sqrt{s} = 7$ TeV with ATLAS**
 G. Aad *et al.* [ATLAS Collaboration].
 arXiv:1202.1415 [hep-ex]
 Phys. Lett. B **710**, 383 (2012)
20. **Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC**
 G. Aad *et al.* [ATLAS Collaboration].
 arXiv:1207.7214 [hep-ex]
 Phys. Lett. B **716**, 1 (2012)

4 Teaching activities

He has held the following courses for either physics or chemistry students:

- General Physics
- Instrumentation and Measurement Laboratory
- Mechanics Laboratory
- Experimental Elementary Particle Physics.

He has been the supervisor of 10 bachelor these, 11 master theses and 3 Phd theses.

He is author of the book "Lezioni di Statistica per la Fisica Sperimentale" Edizioni Nuova Cultura Roma ISBN 886134295-7 used as basic text-book for first year laboratory classes at Sapienza University.

He is author of the long note "Data analysis in Elementary Particle Physics" <http://www.roma1.infn.it/people/bini/StatEL>

He has held lectures of "Statistics methods" for Medicine students at Sapienza University Medicine Faculty.

He is member of the Committe of the master course in Physics of the Sapienza University

He is member of the Council of the Phd in Physics of Sapienza University.

5 Other professional activities

- 2002 - 2005: Member of the Department Council.
- 2003 - 2010: President of the Department Committee for coordination of the technical and administrative personnel
- 2003 - 2008: Referee for Phys.Lett. B and Journal of High Energy Physics.
- 2003 - 2009: Responsible of high energy physics seminars in Physics Department
- Member of the Local Organizing Committee of 6 international conferences, convener in 3 conferences and Proceedings editor of 2 conferences
- Since 2012 he is "peer-review" referee of the National Agency for Research Evaluation (ANVUR)