

Personal information:

Family name, first name: **GABRIELLI Emidio**
Researcher identifier: orcid.org/0000-0002-0637-5124
Date of Birth: 21 September 1961
Nationality: Italian

Education:

1991 **PhD** in Theoretical Physics at Rome I University, Italy
supervisor: Prof. Giancarlo Rossi
1986 **Master** (Laurea) in Theoretical Physics at Rome I University, Italy
supervisor: Prof. Guido Altarelli

Current position:

1 Nov 2018 Associate Professor, Department of Physics, University of Trieste, Italy

Previous positions:

2012 - 2018 Assistant Professor, Department of Physics, University of Trieste, Italy
2011 - 2014 Senior Research Scientist, National Institute of Chemical Physics and Biophysics, Estonia
2008 - 2011 Visiting Scientist, TH Division, CERN, Switzerland
2000 - 2007 Senior Research Scientist, Helsinki Institute of Physics, Finland
1997 - 2000 Postdoc, Dept. of Physics, University Autonoma of Madrid, Spain
1996 - 1997 Postdoc, Dept. of Physics, University of Notre-Dame, United States
1993 - 1995 Postdoc, Dept. of Physics, University of Rome I, Italy
1992 - 1993 Research Fellow (Della Riccia Foundation and INFN), TH-Division, CERN, Switzerland

Short visiting positions:

2007 Visiting Prof., Dept. of Physics, Louvain-La-Neuve University, Belgium
2001 - 2002 Corresponding Scientific Associate, TH Division, CERN

Academic Qualifications:

2017 - 2023 Habilitation to Full Professor, Theoretical Physics, sector 02/A2, Italy
2014 - 2020 Habilitation to Full Professor, Particle Physics, section 29, France

Research Grants as Principal Investigator:

position: Top Researcher
Project title: *Search for New Physics Beyond the Standard Model and astrophysical implications*
Period: from May-2011 to Feb-2014
Funding source: Estonian Science Foundation, Mobilitas Program 2011-2015
Institution: National Institute of Chemical Physics and Biophysics, Estonia

Teaching activities:

2018	Master course at the University of Trieste Title: <i>Dynamics of Electroweak and Strong Interactions</i> (48 hours) Master course at the University of Trieste Title: <i>Quantum Field Theory I</i> (48 hours)
2014-2017	Master course (annual) at the University of Trieste Title: <i>Dynamics of Elementary Particles</i> (48 hours)
2007	PhD course at the University of Louvain-la-Neuve Title: <i>FCNC processes and CP violating phenomena</i> (12 hours)
2006	PhD course at the University of Helsinki Title: <i>FCNC processes and CP violating phenomena</i> (28 hours)
2005	PhD course at the University of Helsinki Title: <i>Diffraction Physics at the LHC and Top Physics</i> (10 hours)
2002-2003	PhD course (annual) at the University of Helsinki Title: <i>Phenomenology of Electro-Weak and Strong Interactions, Standard Model and beyond</i> (30 hours)
1999	PhD course at the University Autonoma of Madrid Title: <i>Phenomenology of weak and strong interactions</i> (30 hours)

Supervision of Thesis:

2014-2018	8 Master + 1 Bachelor students, Trieste University, Dip. di Fisica, Italy
2011-2015	1 PhD student at Tartu University, Dept. of Physics, Estonia
2005-2007	co-supervision 1 PhD student at Helsinki Institute of Physics, Finland

Institutional responsibilities:

2012-2017	Faculty member, Physics Department, Trieste University, Italy
2014-2017	Member of “Consiglio di Laurea Magistrale” in Physics, Trieste University

Referee of International Scientific Journals:

since 2002	Nuclear Physics B
since 2002	Physics Letters B
since 2004	Physical Review D
since 2007	Physical Review Letters
since 2012	International Journal of High Energy Physics
since 2015	Classical and Quantum Gravity
since 2015	Journal of Physics G

Organization of scientific meetings:

2018	Organizer of <i>PACTS 2018: Particle, Astroparticle and Cosmology</i> Tallinn Symposium, 18-19 June, Tallinn, Estonia
2017	Chair of the Conference <i>IFAE 2017</i> , 19-21 April, Trieste, Italy
2007	Convener of the Conference <i>ILC Physics in Florence</i> , 12-14 September, Arcetri (Florence), Italy

Research Statement

I work as a theorist at the experimental frontiers of fundamental physics. My research activity has been performed with no breaks since 1986. I have been working on different sectors of high energy physics. I started my career, as student, working on the phenomenology of high energy colliders under the guidance of my supervisor Prof. Guido Altarelli at the University of Rome¹. After this period, during my PhD, I extended my researches to the field of quantum chromo-dynamics (QCD) on the lattice, where I achieved important results concerning the computation of renormalization constants relevant for the QCD predictions of low-energy observables in the Flavor physics, see Refs. [3,5,6]. After this period, I returned to perform my research activity in the area of particle physics phenomenology, giving relevant contributions in various sectors, in particular:

- low energy implications of supersymmetric models for the Flavor physics and CP violating phenomena (see Refs. [11,12,13])
- collider physics, in particular in Higgs boson physics and top-quark physics;
- phenomenology of gravity models in large extra-dimensions;
- astro-particle physics, in particular SUSY dark matter searches, and axion physics.

Since 2010, with the beginning of the LHC experimental program, I have been focussing my researches on the phenomenological implications of new physics scenarios at the LHC, in particular on Higgs boson physics, top-quark physics, and low energy effective field theories for the Flavor physics. Among the main results obtained in this last period, to mention the impact of the work in Ref.[41], concerning the recent measurements of the main Higgs boson decay into a pair of bottom quarks. In this work, the production of the Higgs boson in association with a photon in vector boson fusion was proposed as an efficient tool to increase the sensitivity of signal over background at the LHC, for the measurement of the Higgs boson decay into this channel. The main idea relies on the fact that the presence of an associated photon can suppress the gluon-rich dominant non-resonant $bbjj$ background, further increasing the sensitivity to the VBF final state (see ATLAS, Phys. Rev. D98 (2018) 052003 for more details).

The discovery of the Higgs boson at the LHC in 2012 prompted my interests in developing a new paradigm for the origin of Flavor – which relies on the existence of a Dark sector beyond the Standard Model – that could pave the way to the construction of alternative models for both the origin of Flavor and Dark Matter. A rich new phenomenology is predicted that can be tested at the LHC and future colliders, see Refs. [57,61,66,68,69-73]. At moment I am focussing my research activity on the phenomenological implications of Dark sector scenarios in collider physics, Flavor physics and dark matter search experiments.

Research records:

I have published so far 73 peer-reviewed articles and 22 conference/workshop proceedings in the field of high energy physics, low energy physics, astro-particle physics, and quantum field theory. My research papers are published on high-level peer-reviewed journals. According to the InSPIRES database <http://inspirehep.net/>, my papers received so far about 3400 citations in total, with an average of about 46 citation per peer-reviewed article. I am the author of a renowned paper on phenomenological aspects of Supersymmetry (Ref.[13]), that has collected so far almost 1300 citations. Moreover, I have 4 papers with 100-200 citations, and 10 papers with 50-100 citations. My *h*-index is 29 on all papers.

Complete list of Publications

Peer-reviewed scientific articles

- [1] title: **The production of weak intermediate bosons in e-p reactions**
journal: Modern Physics Letters **A**, Vol.1,No.8 (1986) 465
- [2] title: **Quark-antiquark pair production via γW fusion at high energy e^+e^- colliders**
co-authors: M. Ciuchini, E. Franco
journal: Z. Phys. **C 47** (1990) 577
- [3] title: **Renormalization of lattice two fermion operators with improved nearest neighbour action**
co-authors: G. Heatlie, G. Martinelli, C. Pittori, C.T. Sachrajda
journal: Nucl. Phys. **B362** (1991),475
- [4] title: **Extended pure Yang Mills gauge theories with scalar and tensor gauge fields**
journal: Phys. Lett. **B258** (1991) 151
- [5] title: **Four-Fermion Operators with improved nearest-neighbour action**
co-authors: R. Frezzotti, C. Pittori, G.C. Rossi
journal: Nucl. Phys. **B373** (1992) 781
- [6] title: **New improved operators: a convenient redefinition**
co-authors: A. Borrelli, R. Frezzotti, C. Pittori
journal: Nucl. Phys. **B409** (1993) 392
- [7] title: **The decays $K^+ \rightarrow e^+\nu_e\gamma$ and $K^+ \rightarrow \mu^+\nu_\mu\gamma$, and tensorial coupling in the effective weak hamiltonian**
journal: Phys. Lett. **B301** (1993) 409
- [8] title: **Instanton effects in the light-quark masses determination from QCD sum rules**
co-author: P. Nason
journal: Phys. Lett. **B313** (1993) 430
- [9] title: **Higgs production in association with a vector boson pair at future e^+e^- colliders**
co-authors: M. Baillargeon, F. Boudjema, F. Coupyers, B. Mele
journal: Nucl. Phys. **B424** (1994) 343
- [10] title: **The relevance of the dipole penguin operators in ϵ'/ϵ**
co-authors: S. Bertolini, M. Fabbrichesi
journal: Phys. Lett. **B327** (1994) 136

- [11] title: **Supersymmetric corrections to ϵ and ϵ'/ϵ at the leading order in QCD and QED**
co-author: G.F. Giudice
journal: Nucl. Phys. **B433** (1995) 3
- [12] title: **Flavour changing neutral currents and CP violating processes in generalized supersymmetric theories**
co-authors: A. Masiero, L. Silvestrini
journal: Phys. Lett. **B374** (1996) 80
- [13] title: **A complete analysis of FCNC and CP constraints in general susy extensions of the standard model**
co-authors: F. Gabbiani, A. Masiero, L. Silvestrini
journal: Nucl. Phys. **B477** (1996) 321
- [14] title: **The chromomagnetic dipole operator and the B semileptonic branching ratio**
co-authors: M. Ciuchini, G.F. Giudice
journal: Phys. Lett. **B388** (1996) 353
- [15] title: **$Z\gamma H$ vertex effects in Higgs production at future $e\gamma$ linear colliders.**
co-authors: V.A. Ilyin, B. Mele
journal: Phys. Rev. **D56** (1997) 5945
- [16] title: **Low-energy signals for a minimal gauge mediated model.**
co-author: U. Sarid
journal: Phys. Rev. Lett. **79** (1997) 4752
- [17] title: **Imminent phenomenology of a minimal gauge-mediated model.**
co-author: U. Sarid
journal: Phys. Rev **D58** (1998) 115003
- [18] title: **Looking for anomalous $\gamma\gamma H$ and $Z\gamma H$ couplings effects at future linear colliders.**
co-authors: V.A. Ilyin, B. Mele
journal: Phys. Rev **D60** (1999) 113005
- [19] title: **Quenched Supersymmetry**
co-authors: A. Donini, B. Gavela
journal: Nucl. Phys. **B546** (1999) 119
- [20] title: **N=1 Supersymmetric Yang-Mills on the lattice at strong coupling**
co-authors: A. Gonzalez-Arroyo, C. Pena
journal: Int. J. Mod. Phys. **A15** (2000) 553
- [21] title: **Extended Yang-Mills Theories in Euclidean space with higher spin fields.**
journal: Annals Phys. **287** (2001) 229
- [22] title: **Model independent constraints on leptoquarks from rare muon and tau lepton processes**
journal: Phys. Rev. **D62** (2000) 055009

- [23] title: **The $b \rightarrow s\gamma$ decay in SUSY models with nonuniversal A terms**
co-authors: S. Khalil, E. Torrente-Lujan
journal: Nucl. Phys. **B594** (2001) 3
- [24] title: **Initial scales, supersymmetric Dark Matter and variations of neutralino nucleon cross sections**
co-authors: S. Khalil, C. Munoz, E. Torrente-Lujan
journal: Phys. Rev. **D63** (2001) 025008
- [25] title: **Determination of the string scale in D-brane scenarios and Dark Matter implications**
co-authors: D.G. Cerdeno, S. Khalil, C. Munoz, E. Torrente-Lujan
journal: Nucl. Phys. **B603** (2001) 231
- [26] title: **Muon anomalous magnetic moment in supersymmetric models with intermediate scale**
co-authors: D.G. Cerdeño, S. Khalil, C. Muñoz, E. Torrente-Lujan
journal: Phys. Rev. **D64** (2001) 093012
- [27] title: **g-2 of the muon in SUSY models with Gauge multiplets in the Bulk of Extra-dimensions**
co-authors: K. Enqvist, K. Huitu
journal: Phys. Lett. **B512** (2001) 107
- [28] title: **Vacuum stability bounds in anomaly and gaugino mediated SUSY breaking models**
co-authors: K. Huitu, S. Roy
journal: Phys. Rev. **D65** (2002) 075005
- [29] title: **On the $B \rightarrow X_s \rightarrow l^+l^-$ decays in general supersymmetric models**
co-author: S. Khalil
journal: Phys. Lett. **B530** (2002) 133
- [30] title: **Gravitational decays of heavy particles in large extra dimensions**
co-author: B. Mele
journal: Nucl. Phys. **B647** (2002) 319
- [31] title: **Constraining supersymmetric models from $B_d - \bar{B}_d$ mixing and the $B \rightarrow J/\Psi K_S$ asymmetry**
co-author: S. Khalil
journal: Phys. Rev. **D67** (2003) 015008
- [32] title: **Virtual graviton exchanges at the Z pole in large extra dimensions**
co-authors: A. Datta, B. Mele
journal: Phys. Lett. **B552** (2003) 237
- [33] title: **Large extra dimension effects in Higgs boson production at linear colliders and Higgs factories**
co-authors: A. Datta, B. Mele
journal: JHEP **0310:003** (2003)

- [34] title: **Neutralino Nucleon cross section and charge and color breaking constraints**
co-authors: D.G. Cerdeño, M.E. Gomez, C. Muñoz, E. Torrente-Lujan
journal: JHEP **0306:030** (2003)
- [35] title: **Chargino contribution to the CP asymmetry in $B \rightarrow \Phi K_S$ decay**
co-authors: D. Chakraverty, K. Huitu, S. Khalil
journal: Phys. Rev. **D68** (2003) 095004
- [36] title: **Violation of angular momentum selection rules in quantum gravity**
co-authors: A. Datta, B. Mele
journal: Phys. Lett. **B579** (2004) 189
- [37] title: **Comparative study of CP asymmetries in supersymmetric models**
co-authors: K. Huitu, S. Khalil
journal: Nucl. Phys. **B710** (2005) 139
- [38] title: **Light mesons and muon radiative decays and photon polarization asymmetry**
co-author: Luca Trentadue
journal: Nucl. Phys. **B792** (2008) 48
- [39] title: **Photon propagation in magnetic and electric fields with scalar/pseudoscalar couplings: a new look**
co-authors: K. Huitu, S. Roy
journal: Phys. Rev. **D74** (2006) 073002
- [40] title: **Phenomenological viability of neutralino dark matter in the Next-to-Minimal Supersymmetric Standard Model**
co-authors: D.G. Cerdeño, D.E. López-Fogliani, C. Muñoz, A.M. Teixeira
journal: JCAP06 (2007) 008
- [41] title: **Higgs boson production in association with a photon in vector boson fusion at LHC**
co-authors: F. Maltoni, B. Mele, M. Moretti, F. Piccinini, R. Pittau,
journal: Nucl. Phys. **B781** (2007) 64
- [42] title: **Higgs boson plus photon production at the LHC: a clean probe of the b-quark parton densities**
co-authors: B. Mele, J. Rathsman
journal: Phys. Rev. **D77** (2008) 015007
- [43] title: **On the dynamical breaking of chiral symmetry: A New mechanism**
journal: Phys. Rev. **D77** (2008) 055020
- [44] title: **Flavor Changing Fermion-Graviton Vertices**
co-authors: G. Degrassi, L. Trentadue
journal: Phys. Rev. **D79** (2009) 053004
- [45] title: **Testing Effective Yukawa Couplings in Higgs Searches at the Tevatron and LHC**

- co-author: B. Mele
journal: Phys. Rev. **D82** (2010) 113014
- [46] title: **Effective Yukawa couplings and flavor-changing Higgs boson decays at linear colliders**
co-author: B. Mele
journal: Phys. Rev. **D83** (2011) 073009
- [47] title: **Effective axial-vector coupling of gluon as an explanation to the top quark asymmetry**
co-author: M. Raidal
journal: Phys. Rev. **D84** (2011) 054017
- [48] title: **Implications of the effective axial-vector coupling of gluon on top-quark charge asymmetry at the LHC**
co-authors: A. Racioppi, M. Raidal
journal: Phys. Rev. **D85** (2012) 074021
- [49] title: **Has a fermiophobic Higgs boson been detected at the LHC ?**
co-authors: B. Mele, M. Raidal
journal: Phys. Lett. **B716** (2012) 322
- [50] title: **Fermiophobic Higgs boson and supersymmetry**
co-authors: K. Kannike, B. Mele, A. Racioppi, M. Raidal
journal: Phys. Rev. **D86** (2012) 055014
- [51] title: **Single top and Higgs associated production as a probe of the Htt coupling sign at**
co-authors: S. Biswas, B. Mele
journal: JHEP **1301** (2013) 088
- [52] title: **Implications of effective axial-vector coupling of gluon for $t\bar{t}$ spin polarizations at the LHC**
co-authors: A. Racioppi, M. Raidal, H. Veermae
journal: Phys. Rev. **D87** (2013) 054001
- [53] title: **One loop Standard Model corrections to flavor diagonal fermion-graviton vertices**
co-authors: C. Coriano, L. Delle Rose, L. Trentadue
journal: Phys. Rev. **D87** (2013) 054020
- [54] title: **Mass Corrections to Flavor-Changing Fermion-Graviton Vertices in the Standard Model**
co-authors: C. Coriano, L. Delle Rose, L. Trentadue
journal: Phys. Rev. **D88** (2013) 085008
- [55] title: **Direct constraints on the top-Higgs coupling from the 8 TeV LHC data**
co-authors: S. Biswas, F. Margaroli, B. Mele
journal: JHEP **07** (2013) 073

- [56] title: **Towards completing the Standard Model: Vacuum Stability, EWSB and Dark Matter**
co-authors: M. Heikinheimo, K. Kannike, A. Racioppi, M. Raidal, C. Spethmann
journal: Phys Rev **D89** (2014) 015017
- [57] title: **Exponentially spread dynamical Yukawa couplings from non-perturbative chiral symmetry breaking in the dark sector**
co-author: M. Raidal
journal: Phys Rev **D89** (2014) 015008
- [58] title: **Anomalous Higgs-boson coupling effects in HWW production at the LHC**
co-authors: M. Heikinheimo, L. Marzola, B. Mele, C. Spethmann, H. Veermae
journal: Phys Rev **D89** (2014) 053012
- [59] title: **Fermion scattering in a gravitational background: Electroweak corrections and Flavour transitions**
co-authors: C. Coriano, L. Delle Rose, L. Trentadue
journal: JHEP **1403** (2014) 136
- [60] title: **Enhancing the $t\bar{t}H$ signal through top-quark spin polarization effects at the LHC**
co-authors: S. Biswas, R. Frederix, B. Mele
journal: JHEP **1407** (2014) 020
- [61] title: **Dark photons and resonant monophoton signatures in Higgs boson decays at the LHC**
co-authors: M. Heikinheimo, B. Mele, M. Raidal
journal: Phys. Rev. D **90** (2014) 055032
- [62] title: **Higgs-boson production in association with a Dark Photon in e^-e^- collisions**
co-authors: S. Biswas, M. Heikinheimo, B. Mele
journal: JHEP **1506** (2015) 102
- [63] title: **Dark matter and spin-1 milli-charged particles**
co-authors: L. Marzola, M. Raidal, H. Veermäe
journal: JHEP **1508** (2015) 150
- [64] title: **A SUSY Inspired Simplified Model for the 750 GeV Diphoton Excess**
co-authors: K. Kannike, B. Mele, M. Raidal, C. Spethmann, H. Veermäe
journal: Phys. Lett. **B756** (2016) 36
- [65] title: **Asking for an extra photon in Higgs production at the LHC and beyond**
co-authors: B. Mele, F. Piccinini, R. Pittau
journal: JHEP **1607** (2016) 003
- [66] title: **Dark-Photon searches via Higgs-boson production at the LHC**
co-authors: S. Biswas, M. Heikinheimo, B. Mele
journal: Phys. Rev. D **93** (2016) 093011

- [67] title: **Polarization observables for millicharged particles in photon collisions**
co-authors: L. Marzola, E. Milotti, H. Veermäe
journal: Phys. Rev. D **94** (2016) 095014, Erratum: Phys.Rev. D **95** (2017) 119903
- [68] title: **FCNC decays of standard model fermions into a dark photon**
co-authors: B. Mele, M. Raidal, E. Venturini
journal: Phys. Rev. D **94** (2016) 115013
- [69] title: **Radiative Yukawa Couplings in the Simplest Left-Right Symmetric Model**
co-authors: L. Marzola, M. Raidal
journal: Phys. Rev. D **95** (2017) 035005
- [70] title: **Dark-photon searches via ZH production at e^+e^- colliders**
co-authors: S. Biswas, M. Heikinheimo, B. Mele
journal: Phys. Rev. D **96** (2017) 055012
- [71] title: **Hunting down massless dark photons in kaon physics**
co-authors: M. Fabbrichesi, B. Mele
journal: Phys. Rev. Lett. **119** (2017) 031801
- [72] title: **Z boson decay into light and darkness**
co-authors: M. Fabbrichesi, B. Mele
journal: Phys. Rev. Lett. **120** (2018) 171803
- [73] title: **Neutral Hadrons Disappearing into the Darkness**
co-authors: D. Balducci, M. Fabbrichesi
journal: Phys. Rev. **D98** (2018) 035049

Contribution to book and other compilations

- [1] title: **Standard Model Processes**
co-authors: F. Boudjema, B. Mele *et al.*:
Book: Physics at LEP2, Vol. 1, 207, **CERN Report 1996**; arXiv: hep-ph/9601224
- [2] title: **Measuring $Z\gamma H$ vertex effects at $e\gamma$ linear colliders.**
co-authors: V.A. Ilyin, B. Mele:
Book: DESY Report DESY-97-123E
E-print: arXiv: hep-ph/9707370
- [3] title: **Anomalous $\gamma\gamma H$ and $Z\gamma H$ couplings in the process $e\gamma \rightarrow eH$**
co-authors: V.A. Ilyin, B. Mele:
Book: DESY report on '*Physics Studies for a Future Linear Collider*', **DESY 123F**.
E-print: arXiv: hep-ph/9912321
- [4] Title: **Higgs Working Group: Summary Report**
co-authors: S. Dawson *et al*
e-Print: arXiv:0803.1154 [hep-ph]

- [5] title: **Les Houches 2011: Physics at TeV Colliders New Physics Working Group Report**, co-authors: G. Brooijmans, *et al.*
E-print: arXiv:1203.1488 [hep-ph].

Articles in conference proceedings

- [1] title: **Single weak gauge boson production at CLIC**
Proceedings: Workshop on Physics at Future Accelerators, *La Thuile and Geneva*, 7-13 Jan 1987
Report: CERN-87-07 Vol. II
- [2] title: **'Improved' computation in lattice QCD**
co-authors: G. Heatlie, G. Martinelli, C. Pittori, G.C. Rossi, C.T. Sachrajda, A. Vladikas
Proceedings: **Lattice 90**, Tallahassee 1990
Journal: Nucl. Phys. *Proc. Suppl.* **20** (1991), 448
- [3] title: **The charged K decays and tensorial coupling in the effective weak hamiltonian**
Proceedings: Eurodaphne collaboration meeting, Frascati (1993) april 19-23
Report: **LNF-93/053**
- [4] title: **Production of a Higgs with Two Gauge Bosons**
co-authors: F. Boudjema, M. Baillargeon, F. Cuyper, B. Mele
Proceedings: *2nd Workshop on e^+e^- Collisions at 500 GeV. The Physics Potential*, Munich, Annecy, Hamburg, 20 Nov 1992 to 3 Apr, 1993
Report: **DESY report 1994**, ed. by P.M.Zerwas
- [5] title: **Constraints on supersymmetry from FCNC and CP violation**
co-authors: A. Masiero, L. Silvestrini
Proceedings: Workshop SUSY 95, Ecole Polytechnique, Palaiseau, May 1995
Journal: Palaiseau 1995, SUSY 95, 83-95
E-print: hep-ph/9510215
- [6] title: **$Z\gamma H$ vertex at future colliders**
co-authors: V.A. Ilyin, B. Mele
Proceedings: 5th International Conference on Physics Beyond the Standard Model, Balholm, Norway, 29 Apr - 4 May 1997
E-print: arXiv:hep-ph/9709351
- [7] title: **Testing the $Z\gamma H$ vertex at linear colliders for intermediate Higgs masses**
co-authors: V.A. Ilyin, B. Mele
Proceedings: International Europhysics Conference on High-Energy Physics (HEP 97), Jerusalem, Israel, 19-26 Aug 1997
E-print: arXiv:hep-ph/9712285
- [8] title: **Quenched Supersymmetry**
co-authors: A. Donini, B. Gavela

Proceedings: 16th International Symposium on Lattice Field Theory, (LATTICE 98, Boulder, CO, 13-18 Jul 1998)

Journal: Nucl. Phys. *Proc. Suppl.* **73** (1999) 721

E-print: arXiv:hep-ph/9809111

- [9] title: **N=1 Supersymmetric Yang-Mills on the lattice: the weak and strong coupling limits**

Proceedings: Trieste Meeting of the TMR Network on Physics beyond the SM (Feb 24-27, 1999)

E-print: arXiv:hep-th/9906082.

- [10] title: **Bounds on anomalous $\gamma\gamma H$ and $Z\gamma H$ couplings at future $e\gamma$ linear colliders**
co-authors: V.A. Ilyin, B. Mele

Proceedings: Worldwide Study on *Physics and Experiments with Future Linear $e+e-$ Colliders*, Sitges (Barcelona), Spain - April 28-May 5, 1999, Vol. 1, 511, Eds. E. Fernández, A. Pacheco

E-print: arXiv:hep-ph/9907574

- [11] title: **N=1 Super-Yang-Mills at strong couplings**

co-authors: A. Gonzalez-Arroyo, C. Pena

Proceedings: 17th International Symposium on Lattice Field Theory (LATTICE 99), 29 Jun - 3 Jul 1999. Pisa, Italy

Journal: Nucl. Phys. *Proc. Suppl.* **83** (2000) 664

E-print: arXiv:hep-lat/9909113

- [12] title: **Experimental constraints on the neutralino nucleon cross section**

co-authors: D.G. Cerdeno, C. Munoz

Proceedings: *Corfu Summer Institute on Elementary Particle Physics (Corfu 2001)*, Corfu, Greece, 31 Aug - 20 Sep 2001

E-print: arXiv:hep-ph/0204271

- [13] title: **Extended joint ECFA/DESY study on physics and detector for a linear $e+e-$ collider**

co-authors: K. Ackermann *et. al.* (many other authors)

Proceedings: Summer Colloquium, Amsterdam, Netherlands, April 4, 2003

Report: DESY-PROC-2004-01

URL: <http://www-library.desy.de/cgi-bin/showprep.pl?desy04-123>

- [14] title: **Supersymmetric models and CP violation in B decays**

co-authors: K. Huitu, S. Khalil

Proceedings: 1st GUC Workshop on High Energy Physics, Cairo, Egypt, 9-13 Jan 2005

E-print: arXiv:hep-ph/0504168

- [15] title: **Light mesons and muon radiative decays and photon polarization**

co-author: L. Trentadue

Proceedings: International Workshop “ e^+e^- Collisions from PHI to PSI”, Novosibirsk, Russia, 27 Feb - 2 Mar 2006

Journal: Nucl. Phys. Proc. Suppl. **162** (2006) 153

- [16] title: **Enhancing the $t\bar{t}H$ signal through top-quark spin polarization effects at the LHC**
co-authors: S. Biswas, R. Frederix, B. Mele
Proceedings: 37th International Conference of High Energy Physics (ICHEP 2014), 2-9 July 2014 Valencia, Spain
Journal: Nucl. Part. Phys. Proc. 273-275 (2016) 721-726
- [17] title: **Searching for massless Dark Photons at the LHC via Higgs boson production**
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