Vincenzo Barone

Curriculum vitae

BIO AND EDUCATION

Laurea in Physics, University of Torino, cum laude and honors (1987). *Teaching* and *Research Assistant*, Massachusetts Institute of Technology (1987-1988). Ph.D. in Theoretical Physics, University of Perugia (1992).
V*isiting scientist* at Landau Institute, Moscow (1990), and Collège de France, Paris (1997).
I organized various conferences and international schools of high-energy physics, and founded the workshop series "Transversity".
I am referee for international physics journals.
I contributed to establishing the Master course in Physics of Complex Systems (University of Torino and UPO).
In the past years I have been teaching many classes at UPO and at the Higher School for Teachers.
I am the author of research monographs, a relativity textbook and popular science books. I edited some classics of science (Einstein, Fermi, Dirac, Poincaré).
I contribute regularly to the newspaper "Il Sole-24 Ore". I am active in the field of science comunication.

UNIVERSITY CAREER

2005-	Associate Professor, Università del Piemonte Orientale
1993-2005	Researcher, Università del Piemonte Orientale

UNIVERSITY POSITIONS

2013-	Member of the Board of the Ph.D. Program, Università di Ferrara

SCIENTIFIC POSITIONS

2013-	Member of the Scientific Committee, "Asimmetrie"
2009-2015	Managing Director of "Agorà Scienza"

MAIN FIELDS OF INTEREST

1. Theory of elementary particles
2. Phenomenology of strong interactions
3. Structure of hadrons
4. High-energy spin physics
5. History of XXth Century Physics

CURRENT ISSUES OF RESEARCH

1. Spin asymmetries in hadronic processes

Spin asymmetries in high-energy processes are related to important properties of hadrons, which allow a better understanding of their quark structure and of the strong interactions. The aim of the research is to study such properties, in particular the correlations between the spin and the transverse momentum of quarks.

2. Target fragmentation in deep inelastic scattering

The target fragmentation region in deep inelastic reactions is described by fracture functions, poorly known from a theoretical viewpoint and experimentally still unexplored. The aim of the research is to classify these functions, study the corresponding observables and provide estimates based on model computations.

3. Enrico Persico on foundations of physics and methodology

Among the prominent Italian physicists of XXth century, Enrico Persico has been most interested in the foundations of physics and methodological matters. The aim of the research is to study his contributions in this field, and to investigate his participation to the epistemological debate.

CURRENT FUNDED PROJECTS

PROGRAMME	FUNDED PROJECT
INFN – NINPHA	National Initiative on Physics of Hadrons https://web2.infn.it/CSN4/IS/Linea3/NINPHA/index.html
DISIT 2015	The 3D structure of hadrons

TOP FIVE PAPERS

1. V.Barone, F.Bradamante and A.Martin,`Transverse-spin and transverse-momentum effects in high-energy processes,'', Prog. Part. Nucl. Phys 65, 267 (2010)
2. M. Anselmino, V. Barone, A. Drago, N.N. Nikolaev, “Accessing transversity via J/psi production in polarized ppbar interactions”, Phys. Lett. B594, 97 (2004).
3. V.Barone, A.Drago and P.G.Ratcliffe,`Transverse polarisation of quarks in hadrons,'' Phys. Rep. 359, 1 (2002).
4. V.Barone, C.Pascaud and F.Zomer,`A New global analysis of deep inelastic scattering data,'' Eur. Phys. J. C 12, 243 (2000).
5. V.Barone, M.Genovese, N.N.Nikolaev, E.Predazzi and B.G.Zakharov, `Structure functions of bound nucleons: From the EMC effect to nuclear shadowing,'' Z. Phys. C 58 541 (1993).

FURTHER INFORMATION

Recent popular science books:
L'ordine del mondo. Le simmetrie in fisica da Aristotele a Higgs, Bollati Boringhieri, 2013 (Finalist, Premio Galileo 2014).
Albert Einstein. Il costruttore di universi, Laterza, 2016 (Finalist, Premio Letterario Merck 2016).
La matematica della natura (with G. Giorello), Il Mulino, 2016.