

Curriculum Vita: Dr. Bilal Masud

EDUCTAION:

D.Phil. (=Ph.D.) from the University of Oxford, England, in 1993 in Theoretical High Energy Physics.

M.Sc. Physics from the Quid-e-Azam University, Islamabad, Pakistan, in 1986.

WORK EXPERIENCE:

Professor **23 September 2018 till present**
Centre for High Energy Physics, Punjab University, Lahore.

Director **30 May 2014 till present**
Centre for High Energy Physics, Punjab University, Lahore.

Associate Professor **December 2001 to 22 September 2018**
Centre for High Energy Physics, Punjab University, Lahore.

Post-doctoral fellow **April 2007 to March 2008**
University of Pittsburgh, USA (on an HEC-funded fellowship).

Assistant Professor **March 1997 to November 2001**
Centre for High Energy Physics, Punjab University, Lahore.

Lecturer **January 1995 to March 1997**
Centre for High Energy Physics, Punjab University, Lahore.

Post-doctoral fellow **May 1994 to January 1995**
ICSC World Laboratory (through Department of Physics, Punjab University, Lahore).

Post-doctoral fellow **October 1992 to May 1994**
The Research Institute for Theoretical Physics, University of Helsinki, Finland.

RESEARCH INTERESTS:

These include some aspects of Quantum Chromodynamics, the present theory of the systems formed by quarks and antiquarks. (A proton is now understood to contain at least three quarks, for example.) I have mainly worked on models for its non-perturbative sector, such as *lattice-gauge-theory*-based results along with those through the Schwinger-Dyson approach, with applications to hadron scattering, decay and spectroscopy. The immediate application of the work is in meson-meson interaction and strong meson decays (both conventional and hybrids). I have also worked on evaluating an approximate minimal surface (Coons patch) spanned by a fixed boundary, something needed for the mathematical modeling in the above-mentioned work, along with implementing a minimization technique in neutrino oscillations. I am working for judging

the quality of approximate wave functions even without knowing the exact solutions. I plan to develop the relation between the flux tube model of Quantum Chromodynamics simulations and the modern string theory. I plan to write books on philosophy of science also addressing connection of scientific thinking and our culture, quantum mechanics, mathematical modeling through vectors, and scientific computation.

PERSONAL INFORMATIONS:

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