

Paul B. Mackenzie

Current Position

Scientist III

Theoretical Physics Department

Fermi National Accelerator Laboratory

Education

Ph.D. Physics, Cornell University, 1981 (Advisor, Peter Lepage)

B.S. Physics and Mathematics, University of Illinois, Summa Cum Laude, 1975

Previous Positions

Scientist I, II, Fermi National Accelerator Laboratory, 1990-2008

Associate Scientist, Fermi National Accelerator Laboratory, 1986-1990

Member, Institute for Advanced Study, 1984-1986

Research Associate, Fermi National Accelerator Laboratory, 1981-1984

Visiting Positions

Institute for Theoretical Physics, Santa Barbara, 8/1990-12/1990

Institute for Nuclear Theory, Seattle, 6/1993-7/1993

Center for Computational Physics, Tsukuba, 6/1996-9/1996

Professional Activities

USQCD Executive Committee

NSF High-End Computing Resource Allocations Committee, 2005-2008

Fermilab Committee on Scientific Appointments, 2002-2005

International Advisory Committee, International Symposia on Lattice Field Theory:
ory:

- Lattice 89, Capri, 1989
- Lattice 90, Tallahassee, 1990
- Lattice 93, Dallas, 1993
- Lattice 96, St. Louis, 1996
- Lattice 03, Tuskuba, 2003
- Lattice 07, Regensburg, 2007

Organizing Committee:

- Lattice 88, Fermilab, 1988
- Program on Lattice Gauge Theory, Institute for Theoretical Physics, Santa Barbara, 1990
- Aspen Center for Physics Winter Workshop, Aspen, 1995
- Aspen Center for Physics Summer Workshop, Aspen, 1997
- Lattice 04, Fermilab, 2004

Honors and Awards

Phi Beta Kappa, 1975

Fellow, American Physical Society, 1996

Selected Publications

- C. Aubin *et al.*, “Charmed meson decay constants in three-flavor lattice QCD,” Phys. Rev. Lett. **95**, 122002 (2005) [arXiv:hep-lat/0506030].
- C. Aubin *et al.* [Fermilab Lattice Collaboration], “Semileptonic decays of D mesons in three-flavor lattice QCD,” Phys. Rev. Lett. **94**, 011601 (2005) [arXiv:hep-ph/0408306].
- I. F. Allison, C. T. H. Davies, A. Gray, A. S. Kronfeld, P. B. Mackenzie and J. N. Simone, “Mass of the B/c meson in three-flavor lattice QCD,” Phys. Rev. Lett. **94**, 172001 (2005) [arXiv:hep-lat/0411027].
- C. T. H. Davies *et al.*, “High-precision lattice QCD confronts experiment,” Phys. Rev. Lett. **92**, 022001 (2004) [arXiv:hep-lat/0304004].
- S. Hashimoto, A. X. El-Khadra, A. S. Kronfeld, P. B. Mackenzie, S. M. Ryan and J. N. Simone, “Lattice QCD calculation of anti-B → D 1 anti-nu decay form factors at zero recoil,” Phys. Rev. D **61**, 014502 (2000) [arXiv:hep-ph/9906376].
- A. X. El-Khadra, A. S. Kronfeld and P. B. Mackenzie, “Massive fermions in lattice gauge theory,” Phys. Rev. **D55**, 3933 (1997) [hep-lat/9604004].
- M. Alford, W. Dimm, G. P. Lepage, G. Hockney and P. B. Mackenzie, “Lattice QCD on small computers,” Phys. Lett. **B361**, 87 (1995) [hep-lat/9507010].
- G. P. Lepage and P. B. Mackenzie, “On the viability of lattice perturbation theory,” Phys. Rev. **D48**, 2250 (1993) [hep-lat/9209022].
- A. X. El-Khadra, G. Hockney, A. S. Kronfeld and P. B. Mackenzie, “A Determination of the strong coupling constant from the charmonium spectrum,” Phys. Rev. Lett. **69**, 729 (1992).
- P. B. Mackenzie and G. P. Lepage, “QCD corrections to the gluonic width of the upsilon meson,” Phys. Rev. Lett. **47**, 1244 (1981).

Summer School Lectures

“QCD on the Lattice”, V Seminario Nazionale di Fisica Teorica, Parma, Italy, 1996. Five lectures.

“QCD on the Lattice”, Theoretical Advanced Study Institute In Elementary Particle Physics, Boulder, Colorado, 1995. Five lectures.

“Heavy Quarks on the Lattice”, Fifteenth U. K. Institute for Theoretical High Energy Physics, Southampton, 1994. Five lectures.

“Standard Model Phenomenology Using Lattice QCD”, Uehling Summer School, Institute for Nuclear Theory, Seattle, 1993. Five lectures.

“Machines for Lattice Gauge Theory”, Theoretical Advanced Study Institute In Elementary Particle Physics, Boulder, Colorado, 1987. One lecture.

Contact Information

Theoretical Physics Department
Fermi National Accelerator Laboratory
PO Box 500
Batavia, IL 60510

phone: (630) 840-3347
fax: (630) 840-5435
email: mackenzie@fnal.gov