Short Curriculum Vitae: Professor Raymond F. BISHOP

Born 27 August 1945 in Berkhamsted, UK

Scientific Degrees

1966: BA (Honours Class 1) in Natural Science (Physics), The Queen's College, Oxford University, UK
1972: PhD in Theoretical Physics, Stanford University, USA
Thesis Title: *On the Theory of Interacting Fermi Systems*

Academic Employment

1972–1974 SRC Research Fellow and Senior Research Associate, Manchester University, UK
1974–1977 Joint appointments as Lecturer in Theoretical Physics, Manchester University, and Consultant to the Theory Group, Science Research Council (SRC), Daresbury Laboratory, UK
1977–1979 Joint appointments as Staff Scientist, Lawrence Berkeley Laboratory and Lecturer in Physics, Department of Physics, both at University of California at Berkeley, USA
1979–1986 Lecturer (till 1983) and then Senior Lecturer in Mathematical Physics, Department of Mathematics, UMIST, UK
1986–1988 Reader in Theoretical Physics, Department of Mathematics, UMIST, UK
1988–1995 Professor of Theoretical Physics, Department of Mathematics, UMIST, UK
1991–1995 Head of Department of Mathematics, UMIST, UK
1991–2004 Professor of Theoretical Physics, Department of Physics, UMIST, UK
1996–1997 Head of Department of Physics, UMIST, UK
2004–2010 Professor (and since 2007 Distinguished University Research Professor) of Theoretical Physics, The University of Manchester, UK
2010– Distinguished Emeritus Professor of Theoretical Physics, The University of Manchester, UK
2016– Visiting Professor, Department of Physics, Loughborough University, UK
2016– Visiting Professor, School of Physics and Astronomy, University of Minnesota, Minneapolis, USA

Academic Honours and Awards

1963–1966 State Scholarship and Open Scholarship at The Queen's College, Oxford University, UK
1966–1969 SRC/NATO Postgraduate Scholarship at Stanford University, USA
1966–1972 Fulbright Fellowship, held at Stanford University, USA
1981 Fellow of the Institute of Physics (FInstP), UK
1984 Fellow of the Institute of Mathematics and its Applications (FIMA), UK
1990 Awardee, Rector's Medal of Honour from the University of Helsinki, Finland
2004 Fellow of the American Physical Society, with the citation:
"for pioneering development of the coupled-cluster method and its innovative application across the full spectrum of subfields of physics, as well as for his leadership of the international community of many-body theorists"
2005 Awardee, Eugene Feenberg Memorial Medal in Many-Body Physics, with the citation:
"for his development of the coupled-cluster method toward a comprehensive ab initio approach, and innovative applications across the full spectrum of subfields of quantum many-body physics"
2005 The International Conference on *Microscopic Approaches to Many-Body Theory* was held in Manchester on my 60th birthday and to honour my contributions to theoretical physics

Research Interests: Microscopic quantum many-body theory and its applications to systems in nuclear physics, subnuclear physics and quantum field theory, condensed matter physics, quantum fluids and ultra-dense matter, quantum magnetism, statistical physics, and quantum information theory.

Research Talks: over 260 invited conference talks and research colloquia since 1980.

Publications: over 250 papers published in (mostly high-impact) refereed journals. Highlights include:

- R.F. Bishop and K.H. Lührmann, "Electron correlations. II. Ground-state results at low and metallic densities," *Phys. Rev. B* **26,** 5523-5557 (1982) *[cited 165 times]*
- J.S. Arponen, R.F. Bishop, and E. Pajanne, "Extended coupled cluster method. I. Generalized coherent bosonization as a mapping of quantum theory into classical Hamiltonian mechanics, *Phys. Rev. A* **36,** 2519-2538 (1987) *[cited 245 times]*
- R.F. Bishop, "An overview of coupled cluster theory and its applications in physics," *Theor. Chim. Acta* **80**, 95-148 (1991) *[cited 456 times]*
- C. Zeng, D.J.J. Farnell and R.F. Bishop, "An efficient implementation of high-order coupled-cluster techniques applied to quantum magnets," *J. Stat. Phys.* **90**, 327–361 (1998) *[cited 177 times]*
- O. Götze, D.J.J. Farnell, R.F. Bishop, P.H.Y. Li, and J. Richter, "Heisenberg antiferromagnet on the kagome lattice with arbitrary spin: A higher-order coupled cluster treatment," *Phys. Rev. B* **84**, 224428 (7pp) (2011) *[cited 121 times]*

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