

**R.F. BISHOP:**  
**RESEARCH GRANTS AND CONTRACTS**

1. SRC Research Grant (GR/B/47362) (Science Board/Physics Committee) for £2,068, October 1980–September 1982, for investigations titled “Development and Applications of Coupled Cluster Theory of Electron and other Correlations.”
2. British Council grant for £202, September 1980, for financial assistance under the Academic Links with Eastern Europe Scheme, to co-sponsor a visit to Czechoslovakia together with the Czechoslovak Academy of Sciences.
3. British Council grant for £439, January 1981, to co-sponsor an academic visit to Mexico.
4. SRC Research Grant (NG/09327) (Nuclear Physics Board) for £20,185, February 1981–February 1983, for investigations titled “Nuclear Correlations and Bound State Clusters.”
5. SRC Senior Visiting Fellowship Grant (GR/B/57781) (Science Board/Physics Committee) for £14,445, February 1981–February 1982, for visit of K.H. Lührmann in connection with investigations titled “Coupled Cluster Theory of Quantum Many-Body Systems.”
6. British Council grant of £900, May–July 1981, for financial support under the Academic Links with Eastern Europe Scheme to further a research collaboration with the Institute of Nuclear Physics of the Czechoslovak Academy of Sciences, Řež (near Prague).
7. SERC Research Grant (GR/B/61801) (Science Board/Physics Committee) for £20,125, October 1981–September 1983, for investigations titled “Applications of Soliton Theory in Statistical Mechanics;” jointly with R.K. Bullough.
8. British Council grant of £290, July–August 1982, for financial assistance under the Academic Links with Eastern Europe Scheme, to further a research collaboration with the Institute of Nuclear Physics of the Czechoslovak Academy of Sciences, Řež (near Prague).
9. British Council grant of £170, May–June 1983, to co-sponsor a visit to the Institute for Nuclear Research, Warsaw, Poland.
10. British Council grant of £756, June–July 1983, for financial support under the Academic Links with Eastern Europe Scheme, to further a research collaboration with the Institute of Nuclear Physics of the Czechoslovak Academy of Sciences, Řež (near Prague).
11. British Council grant of £595, July–August 1983, to co-sponsor a visit to China together with the Division of Physics and Mathematics of Academia Sinica.
12. British Council grant of £70, August–September 1983, to co-sponsor an academic visit to W. Germany.
13. SERC Research Grant (GR/C/65490) (Science Board/Physics Committee) for £21,885, October 1983–September 1985, for investigations titled “Statistical Mechanics of Integrable Classical and Quantum Field Theories and Applications;” jointly with R.K. Bullough.
14. SERC Research Grant (GR/C/56757) (Science Board/Physics Committee) for £26,700, October 1983–September 1985, for investigations titled “The Coupled Cluster Theory of Quantal Many-Body Systems and Applications to Diverse Condensed Matter.”
15. SERC Research Grant (NG/13980) (Nuclear Physics Board) for £24,050, October 1983–September 1985, for investigations titled “Nuclear Clusters and Correlations.”
16. British Council grant of £170, June 1984, for financial assistance to further a research collaboration with the Institute for Nuclear Research, Warsaw, Poland.
17. SERC Visiting Fellowship Research Grant (NG/14802) (Nuclear Physics Board) for £4,785, April–June 1985, for visit of J. Dąbrowski in connection with investigations titled “Development and Applications of Nuclear Matter Theory.”
18. SERC Visiting Fellowship Research Grant (NG/16073) (Nuclear Physics Board) for £5,315, April–September 1985, for visit of H.G. Kümmel in connection with investigations titled “Nuclear Many-Body Theory and Quantum Field Theory in the Coupled Cluster Formalism.”

19. British Council grant for £210, June 1985, to co-sponsor a visit to Spain to establish an academic link with the Department of Nuclear Physics, University of Granada.
20. British Council grant of £750, July 1985, to co-sponsor a visit to Mexico to further a research collaboration with, and to establish an academic link with, the Department of Theoretical Physics, Institute of Physics, Universidad Nacional Autónoma de México, Mexico City.
21. SERC Research Grant (NG/16684) (Nuclear Physics Board) for £50,970, October 1985–September 1988, for investigations titled “A Coupled Cluster Theory of Nuclear Structure and Interacting Quantum Fields.”
22. British Council grant of £540, November–December 1985, to further a research collaboration with the Institute of Nuclear Physics of the Czechoslovak Academy of Sciences, Řež (near Prague).
23. British Council grant of £990 to support the Nuclear Theory Workshop, Manchester, 18–23 August 1986.
24. SERC Research Grant (NG/17131) (Nuclear Physics Board) for £2,100, to support the Nuclear Theory Workshop, Manchester, 18–23 August 1986; jointly with J.M. Irvine.
25. British Council grant of £600, 1–30 September 1986, to further a research collaboration with the Institute of Nuclear Physics of the Czechoslovak Academy of Sciences, Řež (near Prague).
26. British Council grant for £200, September 1987, to co-sponsor a visit to Spain to further a research collaboration with the Department of Modern Physics, University of Granada.
27. British Council grant of £1,000, February 1988, to co-sponsor a visit and lecture tour to India together with the Indian Association for the Cultivation of Science.
28. British/Spanish Joint Research Programme (Acciones Integradas) – administered jointly by The British Council and the Spanish Ministry of Education and Science – grant of £1,580, April 1988–March 1989, to support a research collaboration with Profesor R. Guardiola at Departamento de Física Moderna, University of Granada, for investigations titled “The Quantum Many-Body Problem.”
29. SERC Research Grant (GR/F/10477) (Nuclear Physics Board) for £53,720, October 1988–September 1991, for investigations titled “The Coupled Cluster Method of Quantum Many-Body Theory and its Applications.”
30. SERC Visiting Fellowship Research Grant (GR/F/23668) (Nuclear Physics Board) for £1,465, November–December 1988, for visit of J.S. Arponen in connection with investigations titled “The Extended Coupled Cluster Treatment of Quantum Field and Many-Body Theories.”
31. British Council grant of £135, December 1988, to co-sponsor a visit to Czechoslovakia together with the Czechoslovak Academy of Sciences.
32. British Council grant of £688, August 1989, to co-sponsor an academic visit to Brazil.
33. European Research Office of the US Army Research Contract for US \$12,000, April 1990, to organise and conduct an International Workshop on Condensed Matter Theories on Isola d’Elba, Italy; 18–23 June 1990.
34. SERC Visiting Fellowship Research Grant (GR/G/36722) (Nuclear Physics Board) for £4,670, July–December 1991, for visit of R.A. Smith in connection with investigations titled “Confronting the Quantum Many-Body Problem: A Comparison of Techniques.”
35. British Council grant of £200, December 1991, to co-sponsor a visit to Czechoslovakia together with the Czechoslovak Academy of Sciences.
36. SERC Research Grant (GR/H/00765) (Nuclear Physics Board) for £41,630, April 1992–March 1994, for investigations titled “Fundamental Microscopic Techniques in Nuclear Many-Body Theory and Quantum Field Theory.”
37. British/Spanish Joint Research Programme (Acciones Integradas) – administered jointly by The British Council and the Spanish Ministry of Education and Science – grant of £1,600, April 1992–March 1993, to support a research collaboration with Professor R. Guardiola at University of Valencia, for investigations titled “Microscopic Structure of Atomic Nuclei: An *Ab Initio* Treatment Using Quantum Many-Body Techniques.”
38. WE-Heraeus-Stiftung (Germany) Research Contract for DM 22,000 (jointly with M.L. Ristig) to organize and conduct a European Workshop on “Current Studies in Quantum Many-Body Theory” in Bad Honnef, Germany; 7–9 June 1993.

39. SERC Research Grant (GR/H/94986) (National Committee for Superconductivity) for £100,660, October 1993–September 1996, for investigations titled “A Many-Body Treatment of Strongly Interacting Spin and Fermion Lattice Models for High- $T_c$  Superconductivity;” jointly with J.B. Parkinson.
40. SERC Research Grant (GR/J/21255) (Nuclear Physics Board) for £99,470, October 1993–September 1996, for investigations titled “Microscopic Many-Body Theory Applied to Nuclear Structure and Interacting Quantum Fields.”
41. EC Research Contract (CHRX-CT94-0456) for 150,000 ECU, January 1995–December 1997, for a Network under the Human Capital and Mobility Programme entitled “Microscopic Quantum Many-Body Theory: Applications to Traditional and Novel Forms of Matter;” with partners at SISSA (Italy), University of Pisa (Italy), University of Cologne (Germany), University of Valencia (Spain), and Universities of Helsinki and Oulu (Finland).
42. EPSRC Special “Rolling” Research Grant (GR/L/22331) (Nuclear Physics Programme) for £307,104, October 1996–September 2000, for investigations titled “UMIST Nuclear Theory Programme: Microscopic Studies of Nuclear Structure and Subnuclear Fields;” jointly with N.R. Walet.
43. WE-Heraeus-Stiftung (Germany) Research Contract for DM 25,000 (jointly with J. Richter and M.L. Ristig) to organize and conduct an International Workshop on “Microscopic Theories of Phase Transitions: Quantum Versus Thermal Fluctuations” in Bad Honnef, Germany; 13–15 December 1999.
44. EPSRC Research Grant (GR/N15672) (Nuclear Physics Programme) for £478,568, October 2000–September 2004, for investigations titled “UMIST-Manchester Nuclear Theory Programme: Microscopic Studies of Nuclei and Hadronic Matter;” jointly with N.R. Walet and M.A. Nagarajan.
45. EPSRC Visiting Fellowship Grant (GR/N15665) (Nuclear Physics Programme) for £15,230, January 2001–December 2002, for visits of several fellows and to organize workshops in connection with investigations titled “UMIST-Manchester Nuclear Theory Programme: Microscopic Studies of Nuclei and Hadronic Matter (Visitors);” jointly with N.R. Walet and M.C. Birse.
46. EPSRC Research Grant (GR/N25633/01) (Physics Networks Programme) for £50,517, September 2000–August 2003, for a Network entitled “Quantum Circuits Network;” with partners at the Universities of Cambridge, Liverpool, Southampton and Sussex, Hewlett-Packard Research Laboratories and National Physical Laboratory.
47. EPSRC Contract (P014721) for £5,020, May–August 2001, for “EPSRC Contribution Towards the Student Day at the 11th International Conference on Recent Progress in Many-Body Theories” held in Manchester, and with myself as Scientific Director and Chair of the Programme Committee.
48. WE-Heraeus-Stiftung (Germany) Research Contract for €15,000 (jointly with D.J.J. Farnell, J. Richter and U. Schollwöck) to organize and conduct an International Workshop on “Quantum Magnetism: Microscopic Techniques for Novel States of Matter” in Bad Honnef, Germany; 4–6 November 2002.
49. EPSRC Research Grant (EP/B000117/1) (Physics Programme) for £7,688, May–July 2004, to organize and conduct an “International Workshop on Microscopic Approaches to Nuclear Structure Calculations;” jointly with N.R. Walet.
50. EPSRC Research Grant (GR/T27860/01) (Networks Programme) for £62,176, March 2005–February 2008, for a Network entitled “Network on Transport, Dissipation and Control in Quantum Devices;” with partners at 17 UK universities, National Physical Laboratory, Hewlett-Packard Research Laboratories, Qinetiq and Hitachi.
51. EPSRC Research Grant (EP/C005889/1) (Physics Programme) for £277,357, April 2005–September 2008, for investigations titled “Applications of the Coupled Cluster Method in Nuclear Physics;” jointly with N.R. Walet.
52. WE-Heraeus-Stiftung (Germany) Research Contract for €20,000 (jointly with D.J.J. Farnell, J. Richter and J. Schnack) to organize and conduct an International Workshop on “Quantum Magnetism in Low Spatial Dimensions” in Bad Honnef, Germany; 16–18 April 2012.
53. The Leverhulme Trust (UK) Emeritus Fellowship (EM–2015–007) for £21,980, August 2015–July 2017, to conduct research on “Atoms on a Lattice: Studies in Frustration, Degeneracy and Novel Forms of Order.”
54. The Leverhulme Trust (UK) Emeritus Fellowship (EM–2020–013) for £24,000, December 2021–November 2023, to conduct research on “Quantum Phase-Space Techniques 70 Years On: Novel Extensions and Applications.”