

Workshop on solving the
Bogluibove-de Gennes-Pitaevskii
equation for superconductors,
superfluids and nuclei.

James F. Annett and Balazs L. Gyorffy
H.H.Wills Physics Laboratory,

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1 Scientific summary

Pairing and condensation in degenerate Fermi and Bose systems remain at the centre of theoretical and experimental research in condensed matter physics. The equations referred to by the names of Bogoliubov, de Gennes and Pitaevskii provide a powerful, unifying conceptual framework for the study of quantum many-body phenomena associated with broken gauge symmetry. Corresponding to the wide range of physical systems, such as superconductors, Bose-Einstein condensates of atoms and rotating nuclei, there are scientific communities which do not meet as often as would be desirable from the point of view of rapid dissemination of new results and conceptual developments. The aim of the proposed workshop is to overcome such natural fragmentation and stimulate cross-fertilization of new ideas in these fields.

2 Program

- Spin-Orbit effects in triplet superconductors
- Superconductor-Ferromagnet heterostructures
- Superconductor-Insulator transitions
- The Bose-Einstein -BCS crossover
- Superconducting nano-structures
- Rotating Bose-Einstein Condensates
- Exotic Pairing in cold atom condensate
- Pairing in atomic nuclei with high angular momentum

3 Provisional list of speakers:

- V.I.Falko University of Lancaster
- A. Buzdin Université Bordeaux
- G.Litak Technical University of Lublin
- J.F. Annrett University of Bristol
- J Cserty University of Budapest
- C.Lambert University of Lancaster
- B.Simon University of Cambridge
- D.Manske MPI Stuttgart