University of Birmingham

Professor Ray Jones BSc PhD CPhys, MInstP FHEA

Professor

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About

Professor Ray Jones is a Theoretical Physicist whose interests lie in the general areas of Condensed Matter Physics and Statistical Mechanics. He has published extensively in both these area and given talks at both national and international level.

Qualifications

- Fellow of the Higher Education Academy (FHEA), 2007
- Registered Practitioner of the Higher Education Academy, 2005
- CPhys and MInstP, Institute of Physics, 1992
- PhD in Theoretical Physics, 1970
- Dip. Adv Stud Sci., University of Manchester, 1968
- BSc Physics, University of Manchester

Biography

Following the awards of a BSc and PhD from the University of Manchester in 1967 and 1970, Professor Raymund Jones took up a postdoctoral position as an ICI Research Fellow in the Condensed Matter Theory Group of the Physics Department at Imperial College where he continued his interests in Magnetism in disordered systems and extended this work to a study of the magnetic excitations of certain rare earth systems.

He took up a lectureship in Mathematical Physics at the University of Birmingham in 1971 where (in collaboration with colleagues) he published some significant exact solutions of models of spin glasses. From this he developed an interest in the theory of Random Matrices and its applications in Physics.

He moved to the newly formed Theoretical Physics Group of the School of Physics and Astronomy in 1991 where he collaborated with the experimental condensed Matter Group in a theoretical study of their coupled ripplon-ion pool experiments. A fruitful collaboration with Electrical Engineering led to a whole series of papers in which the Feynman Path Integral technique (widely used in Quantum Mechanics) was used to study propagation in an optical waveguide.

Since 1997 he has been Senior Tutor in the School of Physics and Astronomy and from this has developed extensive University Committee work. He Chairs The Welfare Tutors' Forum of the University and is a member of the University's Progress and Awards Board where he represents the College of Engineering and Physical Sciences. He was the founding Secretary of the then newly inaugurated Higher Education Group of the Institute of Physics and later became its Chair and he serves on the Education Board of the Institute of Physics. He currently chairs the Student Development and support Sub Committee of the Engineering and Physical Sciences College. At University level he is a member of several committees which disburse funding to assist student development.

Within the School of physics he has taken a keen interest in teaching and curriculum development.

Teaching

- The General Theory of Relativity
- Lagrangian and Hamiltonian Mechanics
- Mathematics 1 for Physicists
- Tutorial to year 2 Theoretical Physics Students

Postgraduate supervision

- Gary Yates (PhD)
- Alun Williams (MSc)
- Andrew Ewbank (PhD)
- Daniel Hodson (PhD)
- Pekik Nurwantoro (PhD)

- Constantinos Constantinou (PhD)
- Paul Hollister (PhD)

Research

- Superfluid Helium surfaces and Wigner lattices
- Random matrices; random magnetism
- Sheath state superconductivity
- Path integral and paraxial optics

Other activities

- Founder Secretary of the Higher Education Group of the Institute of Physics
- Chair of the Higher Education Group of the Institute of Physics
- Committee member of the Higher Education Group of the Institute of Physics
- Education Board of the Institute of Physics
- Chair of the Engineering and Physical Sciences Student Support and Development Sub Committee
- Chair of the University Welfare Tutors' Forum
- Spent two months at the University of Zambia under a British Council Funded link: gave a postgraduate course in Statistical Mechanics and set up an MSc project

Publications

- Professor Ray Jones publications list (PDF 49KB)

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