

## The 1999 Fritz London Memorial Prize Winners

Douglas F. Brewer (University of Sussex, United Kingdom)  
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### Citation:

“For his seminal experimental discoveries in adsorbed helium films, including the reduced transition temperatures and  $T^2$  specific heat; and for his finding of the linear temperature dependence of the specific heat of  $^3\text{He}$ ; the surface-enhanced nuclear susceptibility of liquid  $^3\text{He}$  and his verification of the minimum in the  $^3\text{He}$  melting curve.”

Douglas Brewer is Emeritus Professor of Physics at the University of Sussex. He was born in Cardiff, Wales in May 1925 and educated at the Crypt Grammar School, Gloucester, and the University of Oxford 1943-5 and 1948-50. He worked at the GEC Research Laboratories 1945-48, and received his Doctorate at Oxford University in 1953 on the discovery of the suppression of superfluidity in unsaturated

helium-4 films. With D. O. Edwards he observed the linear sub-critical region of superflow in capillary tubes 1954-56 and demonstrated its hydrodynamic nature. He was Associate Professor, Ohio State University, 1957-59, where he made the first observation of the linear specific heat of liquid helium-3 and its positive pressure dependence as a Fermi fluid; and the Pomeranchuk minimum in its melting curve. He went to the new University of Sussex in 1962 where he initiated low temperature experimental work and developed a major group. His extensive work on helium-3 and helium-4 in porous materials included observation of T-squared specific heat in monolayer films of helium-3 and helium-4 and of two-dimensional rotons in the second layer of helium-4. His measurements of mean free path-limited spin diffusion coefficient and thermal conductivity of liquid helium-3 demonstrated that Landau quasiparticles are physical entities, not theoretical constructs. He discovered surface magnetism in helium-3 by measurements of the NMR susceptibility in porous glass. He was editor of the Progress in Low Temperature Physics series, was successively Secretary and Chairman of the Very Low Temperature Commission of the International Union of Pure and Applied Physics, and Organiser of LT19. In 1996 he was elected a Foreign Member of the Georgian National Academy of Sciences.