

RICHARD A. WEBB
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Born: September 10, 1946 - Los Angeles, California

Education:

University of California at Berkeley	B.A.	1968
University of California at San Diego	M.S.	1970
University of California at San Diego	Ph.D.	1973

Honors: Member, National Academy of Sciences; Fellow, American Physical Society

Awards:

IBM Outstanding Technical Achievement Award for the observation of Macroscopic Quantum Tunneling in single Josephson junctions 1982

IBM Outstanding Technical Achievement Award for the observation of 1-Dimensional Mott Variable Range Hopping in Si MOSFET's 1984

IBM Outstanding Technical Achievement Award for the observation of the Aharonov-Bohm effect in disordered metallic wires and rings 1987

Simon Memorial Prize - awarded by the Low Temperature Group of the Institute of Physics, University of Oxford 1989

Oliver E. Buckley Prize - awarded by the American Physical Society, Indianapolis, Indiana March 1992

Present Research Activities:

Persistent currents in normal metal systems.

Investigations of the Aharonov-Bohm effect and universal conductance fluctuations in very small semiconducting, metal, insulating rings.

Development of the electrostatic analog of the dc SQUID using single electron tunneling processes. Development of a single electron tunneling transistor.

Research and/or Professional Experience:

Research Associate	1973-1975
University of California at San Diego	

Assistant/Associate Research Physicist	1975-1978
Argonne National Laboratory	

Research Staff Member/Manager	1978-1993
IBM T.J. Watson Research Center	

PUBLICATIONS FOR RICHARD A. WEBB

1. R. P. Giffard, R. A. Webb and J. C. Wheatley, Principles and Methods of Low-Frequency Electric and Magnetic Measurements Using an rf-Biased Point Contact Superconducting Device, *J. Low Temp. Phys.* **6**, 533 (1972).
2. R. A. Webb, R. P. Giffard and J. C. Wheatley, Relationship Between Johnson Noise Temperature and Magnetic Temperature for Powdered Cerium Magnesium Nitrate, *Phys. Lett.* **41A**, 1 (1972).
3. R. A. Webb, R. P. Giffard and J. C. Wheatley, Relationship Between Noise Temperatures and Powdered CMN Magnetic Temperatures: Application to the Properties of ^3He , *Low Temp. Phys. - LT 13* **4**, 517 (1972), edited by K. D. Timmerhaus, W. J. O'Sullivan and E. F. Hammel, Plenum Press, New York.
4. R. A. Webb and J. C. Wheatley, Magnetic and Thermometric Properties of $\text{Na}_2(\text{Ce}(\text{C}_7\text{H}_5\text{NO}_4)_3) \cdot 15 \text{H}_2\text{O}$ in the Millikelvin Range, *Phys. Rev. Letters* **29**, 1150 (1972).
5. R. A. Webb, T. J. Greytak, R. T. Johnson and J. C. Wheatley, Observation of a Second Order Phase Transition and its Associated P-T* Phase Diagram in Liquid ^3He , *Phys. Rev. Letters* **30**, 210 (1973).
6. John C. Wheatley and R. A. Webb, Measurements of Millikelvin Temperatures Using Thermal Noise, *Science* **182**, 241 (1973).
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8. R. A. Webb, R. L. Kleinberg and J. C. Wheatley, Experiments on Dynamic Parallel Magnetism in Superfluid ^3He , *Phys. Rev. Letters* **33**, 145 (1974).
9. R. A. Webb, R. L. Kleinberg and J. C. Wheatley, Nonlinear Phenomena in the Dynamic Parallel Magnetization of Superfluid ^3He , *Phys. Lett.* **48A**, 421 (1974).
10. R. L. Kleinberg, D. N. Paulson, R. A. Webb and J. C. Wheatley, Supercooling and Superheating of the A-B Transition in Superfluid ^3He Near the Polycritical Point, *J. Low Temp. Phys.* **17**, 521 (1974).
11. R. T. Johnson, R. L. Kleinberg, R. A. Webb and J. C. Wheatley, Heat Flow in Superfluid ^3He , *J. Low Temp. Phys.* **18**, 501 (1975).
12. R. A. Webb, R. E. Sager and J. C. Wheatley, Relationship between the Linear Ringing Frequencies in $^3\text{He-A}$ and $^3\text{He-B}$ near the Polycritical Point, *Phys. Rev. Letters* **35**, 615 (1975).
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14. R. A. Webb, R. E. Sager and J. C. Wheatley, Relaxation of the Wall-Pinned Magnetization Ringing Mode in Superfluid $^3\text{He-B}$, *Phys. Rev. Letters* **35**, 1164 (1975).

15. R. A. Webb, R. E. Sager and J. C. Wheatley, Propagation of a Magnetic Disturbance in Superfluid $^3\text{He-B}$, Phys. Lett. **54A**, 243 (1975).
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17. R. A. Webb and Z. Sungaila, Measurements of the Static and Dynamic NMR Susceptibilities of Superfluid $^3\text{He-B}$ using an rf-Biased SQUID, "Quantum Fluids and Solids" edited by Samuel B. Trickey, E. Dwight Adams and James W. Dufty, pg. 127 (1977), Plenum Press, New York.
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22. R. A. Webb, J. B. Ketterson, W. P. Halperin, J. J. Vuillemin and N. B. Sandesar, Very Low Temperature Search for Superconductivity in Pd, Pt and Rh, J. Low Temp. Phys. **32**, 659 (1978).
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PUBLICATIONS FOR RICHARD A. WEBB

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31. Richard F. Voss and Richard A. Webb, Macroscopic Quantum Tunneling in 1- μm Nb Junctions Below 100mK, *Physica* **108B**, 1307 (1981).
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