

## Speaker Profile



**Name** David K. Ferry

**Title** Regents' Professor

**Institute** Arizona State University

Personal profile including his/her education, fields of study, personal experience, etc.

**Education:**

BSEE, 1962	Texas Tech University	Electrical Engineering
MSEE, 1963	Texas Tech University	Electrical Engineering
Ph.D., 1966	The University of Texas at Austin	Electrical Engineering
Postdoc	Universität Wien, Austria	Physics

**Professional Experience (also called Appointments):**

1988–present	Regents' Professor of Electrical Engineering Arizona State University
1993-1995	Interim Associate Dean of Engineering for Research Arizona State University
1989-1992	Chair of Department of Electrical Engineering Arizona State University
1983-1989	Director, Center for Solid State Electronics Research Arizona State University
1977-1983	Professor of Electrical Engineering Colorado State University
1977-1982	Chair of Electrical Engineering Colorado State University
1973-1977	Scientific Officer Office of Naval Research
1970-1973	Associate Professor of Electrical Engineering Texas Tech University
1967-1973	Assistant Professor of Electrical Engineering Texas Tech University

**Awards:**

Cledo Brunetti Award, Institute of Electrical and Electronics Engineers (1999) for “advances in nanoelectronics theory and experiment”  
Outstanding Graduate Mentor Award, ASU, 2000  
Fellow, Institute of Electrical and Electronics Engineers (1987)  
Fellow, American Physical Society (1974)

**Publications:**

D. K. Ferry and S. M. Goodnick, *Transport in Nanostructures* (Cambridge Univ. Press, Cambridge, UK, 1997).  
D. K. Ferry, *Semiconductor Transport* (Taylor & Francis, London, UK, 2000).  
D. K. Ferry, *Quantum Mechanics for Electrical Engineering*, Revised 2<sup>nd</sup> Edition (Institute of Physics Publishing, U.K., 2000).  
D. K. Ferry and J. P. Bird, *Electronic Materials and Devices* (Academic Press, San Diego, 2001).  
L. Shifren and D. K. Ferry, “Inclusion of non-local scattering in quantum transport,” *Physics Letters A* **306**, 332-336 (2003).

**Contact Details**

**Organization Name:**  
Arizona State Univ.

**Address:**  
**Box 875706**  
**Tempe, AZ 85287**  
**Phone: 480-965-2507**  
**Fax: 480-965-8058**

**Email:**  
**ferry@asu.edu**

**Website:**  
**www.eas.asu.edu/~ferry**

K. M. Indlekofer, J. P. Bird, R. Akis, D. K. Ferry, and S. M. Goodnick, "A model for many-body interaction effects in open quantum dots," *Journal of Physics: Condensed Matter* **15**, 147-158 (2003).

W. Liang, K. T. Tsen, D. K. Ferry, K. H. Kim, J. Y. Lin, and H. X. Jiang, "Studies of field-induced non-equilibrium electron transport in an  $\text{In}_x\text{Ga}_{1-x}\text{N}$  ( $x \sim 0.6$ ) epilayer grown on GaN," *Applied Physics Letters* **82**, 1413-15 (2003).

D. Vasileska, C. Prasad, H. H. Wieder, and D. K. Ferry, "Green's function approach for transport calculation in a  $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}/\text{In}_{0.52}\text{Al}_{0.48}\text{As}$  modulation-doped heterostructure," *Journal of Applied Physics* **93**, 3359-63 (2003).

J. P. Bird, R. Akis, D. K. Ferry, A. P. S. de Moura, Y.-C. Lai, and K. M. Indlekofer, "Interference and interactions in open quantum dots," *Reports on Progress in Physics* **66**, 583-632 (2003).

M. J. Gilbert, R. Akis, and D. K. Ferry, "Demonstration of a reflective coupling diode in a coupled waveguide structure," *Journal of Applied Physics* **93**, 6402-4 (2003).

L. Shifren, C. Ringhofer, and D. K. Ferry, "A Wigner function based quantum ensemble Monte Carlo study of a resonant tunneling diode," *IEEE Transactions on Electron Devices* **50**, 769-773 (2003).

S. M. Ramey and D. K. Ferry, "Implementation of surface roughness scattering in Monte Carlo modeling of thin SOI MOSFETs using the effective potential," *IEEE Trans. on Nanotechnology* **2**, 110-114 (2003).

I. Knezevic and D. K. Ferry, "Memory effects and nonequilibrium transport in open many-particle quantum systems," *Physical Review E* **67**, 066122-1-066122-10 (2003).

N. Aoki, D. Onishi, Y. Iwase, K. Ishibashi, J. P. Bird, D. K. Ferry, and Y. Ochiai, "Quantum interference on electron wave spreading over a coupled dot," *Physica E* **18**, 89-90 (2003).

W. Liang, K. T. Tsen, D. K. Ferry, M.-C. Wu, C.-L. Ho, and W.-J. Ho, "Large electric field induced electron drift velocity observed in an  $\text{In}_x\text{Ga}_{1-x}\text{As}$ -based *p-i-n* semiconductor nanostructure at  $T=300$  K," *Applied Physics Letters* **83**, 1438-1440 (2003).

D. K. Ferry, R. A. Akis, J. P. Bird, M. Elhassan, I. Knezevic, C. Prasad, and A. Shailos, "Generalized Interfaces," *Journal of Vacuum Science and Technology B* **21**, 1891-1895 (2003).

D. Vasileska, C. Prasad, H. H. Wieder, and D. K. Ferry, "Green's function approach for transport calculation in a  $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}/\text{In}_{0.52}\text{Al}_{0.48}\text{As}$  modulation-doped heterostructure," *Journal of Vacuum Science and Technology B* **21**, 1903-1907 (2003).

M. J. Gilbert, R. Akis, and D. K. Ferry, "Semiconductor waveguide inversion in disordered narrow-gap materials," *Journal of Vacuum Science and Technology B* **21**, 1924-1927 (2003).

C. Prasad, D. K. Ferry, D. Vasileska, and H. H. Wieder, "Electron heating measurements in an  $\text{In}_{0.52}\text{Al}_{0.48}\text{As}/\text{In}_{0.53}\text{Ga}_{0.47}\text{As}/\text{In}_{0.52}\text{Al}_{0.48}\text{As}$  heterostructure systems," *Journal of Vacuum Science and Technology B* **21**, 1936-1939 (2003).

M. J. Gilbert, R. Akis, and D. K. Ferry, "Dual computational basis qubit in semiconductor heterostructures," *Applied Physics Letters* **83**, 1453-1455 (2003).

	<p>A. Ramamoorthy, R. Akis, J. P. Bird, T. Maemoto, D. K. Ferry, and M. Inoue, "Signatures of dynamical tunneling in semiconductor quantum dots," <i>Physical Review E</i> 21, 026221-1-7 (2003).</p> <p>S. M. Ramey and D. K. Ferry, "Threshold voltage calculation in ultra-thin film SOI MOSFETs using the effective potential," <i>IEEE Transactions on Nano-Technology</i> 2, 121-125 (2003).</p>
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------