

## **Cheng-Hsiao Wu**

Electrical and Computer Engineering Department, Number of Years on this Faculty: 31

### **Education**

Ph.D. in Physics, University of Rochester, 1972

M.S. in Mechanical and Aerospace Engineering, University of Rochester, 1967

B.S in Mechanical Engineering, National Taiwan University, 1961-1965

### **Academic Experience**

Missouri S&T, formerly University of Missouri-Rolla (UMR), Professor, Department of Electrical and Computer Engineering, Sept. 1991-Present.

UMR, Associate Professor, Department of Electrical and Computer Engineering, Aug. 1983-Aug, 1991

Institute of Theoretical Physics and Synergetics, University of Stuttgart, Germany, Visiting Professor, Jan. 1990-Aug. 1990

Institute for Fundamental Studies, Physics Department, University of Rochester, Research Associate and Member of the Institute, Jan 1978- May 1980

Max-Planck Institute for Solid State Research, Stuttgart, Germany, Visiting Scientist, Aug 1975-Dec 1977

New York University and City College CUNY, Physics Department, Post-doctoral Fellow, Sept. 1972- July 1975

### **Non-Academic Experience**

US Missile Command, Huntsville, Alabama, Summer Faculty, July- Aug, 1992

Alliance Semiconductor, Inc. Independence, Missouri. Memory Chip Processing and Development. Aug 1989-Dec 1989

Wright Patterson AFB, Dayton, Ohio, Summer Fellow, May-Aug, 1987

RCA Laboratories, Princeton, New Jersey, Member of Technical Staff, June 1980-April 1983

Xerox Webster Research Center, Rochester, New York, Consultant, 1978-1980

### **Certifications or Professional Registrations**

None

### **Current Membership in Professional Organizations**

American Physical Society

### **Honors and Awards**

Patent Award together with his student, Casey Cain, on a quantum computing processor, US patent #8,525,544, Sept. 2013  
Outstanding Referee for the Journals in American Physical Society, 2010

### **Service Activities**

Advisor to Missouri S&T Solar Car Team, May 1992- present

Reviewer for Physical Review Letters, Physical Review B, Applied Physics Letters, Journal of Applied Physics, 1990-present

### **Principal Publications from the Last Five Years**

C.H. Wu, “On Addition-rule-based Cellular Automata”, Journal of Cellular Automata, April 2014

C.H. Wu and C.A Cain, “A Non-qubit Quantum Adder as One-dimensional Cellular Automata”, Physica E, February 28, 2014

C.A. Cain and C.H. Wu, “Quantum Network Theory of Computing with respect to Entangled Spins and External Perturbation”, J. Applied Physics, 113,154309, 2013

C.H. Wu , L. Tran and C. A. Cain, “ Scaling Relations and the role of Bond-charge to the Electron Transmission through two Coupled Aharonov-Bohm Rings”, J. Applied Physics, 111, 094304, 2012

C.A Cain and C.H. Wu, “ Electron Transport through Two Irreducibly-coupled Aharonov-Bohm Rings with Applications to Nanostructure Quantum Computing Circuits”, J. Applied Physics, 110, 054315, 2011

### **Professional Development Activities**

None in the last 5 years