

T. C. Ernest Ma
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Associate Professor
Department of Mathematical Sciences
Montclair State University
Montclair, NJ 07043

Office Phone: 973-655-7269
Office Fax: 973-655-7686
mat@mail.montclair.edu

EDUCATION

B.S. Physics	National Cheng Kung University	1971
Ph.D. Physics	University of North Carolina at Chapel Hill	1982

PROFESSIONAL EXPERIENCE:

Associate Professor	1992 - Present
Assistant Professor	1983 - 1992
Department of Mathematical Sciences Montclair State University	

TEACHING EXPERIENCE

Quantum Mechanics, Modern Physics, Fluid Mechanics, Optics, Advanced Mechanics, Electricity and Magnetism, Circuit Theory, Electronics and Digital Circuits, Thermodynamics, and Solid State Physics, Independent Studies in Modern Physics, Field Theory, Thermodynamics, and Fluid Mechanics

PROFESSIONAL ACTIVITIES

PUBLICATIONS

1. "Electronic States in One Dimensional Systems with Incommensurate Lattice Potentials" T.C. Ma & K.S.Dy, *J. of Phys. C* 15, 6971-6980, 1982
2. "Electronic Resistivity of Disordered Crystalline Alloys" *Chinese Physics* 2, #1, 69 (translation paper to English ed.), 1983
3. "Energy levels of Atomic Hydrogen" T. C. Ernest Ma, *American J. of Physics*, 53, 1038, 1985
4. "Field Angular Momentum in Feynman's Disk Paradox" T. C. Ernest Ma, *American J. of Physics*, 54, 1038, 1986
5. "Simple Derivation of Quantum Mechanical Virial Theorem" T. C. Ernest Ma, *American J. of Physics*, 59, 476, 1991
6. "Electronic Energy Band Structures of Systems with Incommensurate Lattice Potential Modulation" T. C. Ernest Ma, Dissertation, University of North Carolina at Chapel Hill, 1982

PAPER PRESENTATIONS

1. "The Air Table Experiment revisited" NJAS 1986 annual meeting at Stockton, NJ.
2. "Teaching General Physics using Microcomputers" NJAS 1987 annual meeting at Monmouth, NJ.
3. "Physics for School Teachers" 1988 Workshops at Montclair, NJ.
4. "Teaching Critical Thinking using Microcomputers" 1987 AAPT annual convention at Montana State University.
5. "Solving Collision Problem using Conservation Laws" 1989 AAPT annual convention at California Polytechnic Institute.
6. "On the Solution to a Scattering Problem" 1992 AAPT annual convention at University of Maine, Orono, Maine.

NJ SCIENCE LEAGUE TESTS

2007-present Make up Second Year Physics Jan, Feb, March and April Test Problems in collaboration with R. Hodson.

MERCK STATE SCIENCE DAY

2007-present Make up Merck State Science Day Test Problems in collaboration with R. Hodson

BOOK REVIEW

2006 "Physics: A World View" by Kirkpatrick and Francis (Brooks/Cole)

PROFESSIONAL EXPERIENCE

DPAC, SPAC, and Other Committees, Physics Coordinator

AWARDS

Distinguished Teacher Award, Murray Hill Chinese School.

PROFESSIONAL MEMBERSHIPS

American Physics Society,
Association of American Physics Teachers,
Chinese American Academic and Professional Society.
Licensed Technician Level HAM.