TEACHING RESEARCH PHILOSOPHY

A practitioner of education who teaches with warmth, compassion, conviction, commitment, creativity, and to whom teaching is a creed is a teacher in the real sense of the word. Good teachers kindle a life-long fire of learning that transcends in one form or the other both inside and outside the classroom. I believe that every problem that we are confronted with today, from international competitiveness to our daily needs to our children's future, ultimately rests on education and good teaching.

An effective teacher introduces difficult concepts in an easy way; has the abilities to explain and re-explain a concept in many different ways; never loses sight of the "big" picture; keeps students interested and inspired; stays enthusiastic; helps students as much inside the class as he/she does outside; learns from the way the students learn from him/her; and is always looking to introduce further improvements.

I consider it my responsibility: (i) to provide the best possible physics education in the classroom that will become an integral part of the students' life, (ii) to "prepare" students for the tomorrow's world of science and technology, and (iii) to give back many times more than what the community/country has given to me. I am never satisfied with meeting my requirements minimally. I want to be brilliant, I want my students to excel, and I want to take them out of the ordinary. My challenge is to relate what I am teaching to what very shortly will be expected of students in the society of doctors, scientists, and engineers.

Teaching and research are synergetic and are essential parts of an educator in the university setting. During my career as a physicist, I have published over 125 refereed research papers, made over 135 national/international presentations, wrote review articles, worked in the laboratories that are among the best in the world, worked on solution manuals on a calculus-based physics textbook, and have fostered collaborative relationships with many researchers all over the world.

UNDERGRADUATE BOOKS/SUPPLEMENTARY MATERIALS CO-AUTHORED

(1) Pawan Kahol and Donald Foster—INSTRUCTOR SOLUTIONS MANUALS, VOL. 1 (ISBN: 0-8053-8986-5) "Physics for Scientists and Engineers: A strategic Approach (Randall D. Knight)," Addison Wesley, San Francisco, 2004.

(2) Pawan Kahol and Donald Foster—INSTRUCTOR SOLUTIONS MANUALS, VOL. 2 (ISBN: 0-8053-8989-X) "Physics for Scientists and Engineers: A strategic Approach (Randall D. Knight)," Addison Wesley, San Francisco, 2004.

(3) Pawan Kahol and Donald Foster—STUDENT SOLUTIONS MANUAL, VOL. 1, (ISBN: 0-8053-8708-0) "Physics for Scientists and Engineers: A strategic Approach (Randall D. Knight)," Addison Wesley, San Francisco, 2004.

(4) Pawan Kahol and Donald Foster—STUDENT SOLUTIONS MANUAL, VOLS. 2 (ISBN: 0-8053-8998-9) "Physics for Scientists and Engineers: A strategic Approach (Randall D. Knight)," Addison Wesley, San Francisco, 2004.

(5) Larry K. Smith, Marllin Simon, and Pawan Kahol—INSTRUCTOR SOLUTIONS MANUAL, VOL. 1 (ISBN: 0-8053-0495-9) “College Physics: A Strategic Approach (Knight, Jones, and Field),” Addison Wesley, San Francisco, 2007.

(6) Larry K. Smith, Marllin Simon, and Pawan Kahol—INSTRUCTOR SOLUTIONS MANUAL, VOL. 2 (ISBN: 0-8053-0638-2) “College Physics: A Strategic Approach (Knight, Jones, and Field),” Addison Wesley, San Francisco, 2007.

(7) Larry K. Smith, Marllin Simon, and Pawan Kahol—STUDENT SOLUTIONS MANUAL, VOL. 1 (ISBN: 0-8053-0632-3) “College Physics: A Strategic Approach (Knight, Jones, and Field),” Addison Wesley, San Francisco, 2007.

(8) Larry K. Smith, Marllin Simon, and Pawan Kahol—STUDENT SOLUTIONS MANUAL, VOL. 2 (ISBN: 0-8053-0631-5) “College Physics: A Strategic Approach (Knight, Jones, and Field),” Addison Wesley, San Francisco, 2007.

(9) Pawan Kahol, Donald Foster, Larry Smith, and Scott Nutter—INSTRUCTOR SOLUTIONS MANUALS, VOL. 1 (ISBN: 978-0-321-51621-3; 0-321-51621-4) “Physics for Scientists and Engineers: A strategic Approach (Randall D. Knight),” Addison Wesley, San Francisco, 2008.

(10) Pawan Kahol, Donald Foster, Larry Smith, and Scott Nutter—INSTRUCTOR SOLUTIONS MANUALS, VOL. 2 (ISBN: 978-0-321-51657-2; 0-321-51657-5) “Physics for Scientists and Engineers: A strategic Approach (Randall D. Knight),” Addison Wesley, San Francisco, 2008.

(11) Pawan Kahol, Donald Foster, Larry Smith, and Scott Nutter—STUDENT SOLUTIONS MANUAL, VOL. 1, (ISBN: 978-0-321-51354-0; 0-321-51354-1) “Physics for Scientists and Engineers: A strategic Approach (Randall D. Knight),” Addison Wesley, San Francisco, 2008.

(12) Pawan Kahol, Donald Foster, Larry Smith, and Scott Nutter—STUDENT SOLUTIONS MANUAL, VOLS. 2 (ISBN: 978-0-321-51356-4; 0-321-51356-8) “Physics for Scientists and Engineers: A strategic Approach (Randall D. Knight),” Addison Wesley, San Francisco, 2008.

GRADUATE THESES SUPERVISED

(1) "Magnetic susceptibilities of Al, Pt and Ni(II) monothiocarbamate using a force magnetometer," Yaoxiong Wu, May 1990.

(2) "Atomic dynamics in ferroelectric CsH_2AsO_4 via model simulations of EPR line shapes," Darrell Scoular, December, 1990.

(3) "Dependence of the magnetic state of polyaniline on absorbed water," Hong Guan, April, 1991.

(4) "Computer driven system for ac susceptibility measurements for characterizing high-T_c superconductors," Ikoma George, July, 1993.

(5) “Magnetic susceptibility investigations of hexameric nickel ring,” Yuxin Tian, July, 1993.

(6) “Electron localization effects in polyaniline copolymers,” Vandana Pendse, July, 1994.

(7) “Electron-Paramagnetic-Resonance line shape studies of RbH_2AsO_4, RbD_2AsO_4, and $Rb_{1-x}(NH_4)xH_2PO_4$, “ Xianyao Lao, May, 1994.

(8) “Electron localization in polyaniline derivatives, “ Wayne Spencer, July, 1994.

(9) “Calculation and study of the fourth moment in zero field NMR,” Vassilis Baboulis,

May, 1996.

(10) " Magnetization studies of iron dispersed in pitch," Hassan Khashfa, May, 1996.
(11) " Moisture effects on conduction in polyaniline," Priti Shah, July, 1996.
(12) "Vibrating Sample Magnetometer: Installation, Calibration and Measurements," Saman Dharmatilleke, July, 1997.
(13) "Flux quantization and practical applications of YBCO SQUID," Tracy Tuttle, July, 1997.
(14) "Transport and Magnetic Studies of Polyaniline," N. V. Amarsinghe, May 1998.
(15) "Magnetic Susceptibility Analysis of Conducting Polymers," S. Ayesh, May 2005.
(16) "Growth and Characterization of Cobalt Doped Indium Oxide Thin Films," N. Mamidi, December 2007.
(17) "Metal-Insulator Nano-Composites," Satya Ganti, December 2008.
(18) "High Dielectric Materials," Yogini Dhopade, current student

COURSES TAUGHT

Physics I (algebra + trigonometry based)	Physics II (algebra + trigonometry based)
Physics I (calculus based)	Physics II (calculus based)
Topics in Modern Physics	Modern Physics
Solid State Physics	Solid State Physics (Graduate)
Modern Optics	Chemical Physics
Magnetic Resonance Phenomena (Graduate)	Electricity and Magnetism
Elementary Mechanics	Classical Mechanics (Graduate)
Solid State Physics	Laboratories (Mechanics and E&M)