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ACADEMIC DEGREES

University of Arkansas, Fayetteville, Arkansas, 1972-1973, Ph.D. in physics, 1973.
University of Arkansas, Fayetteville, Arkansas, 1967-68, M.S. in physics, 1969.
University of Arkansas, Fayetteville, Arkansas, 1962-1966, B.S. in physics 1967.

PROFESSIONAL EXPERIENCE

Professor of Physics and Computer Science, Texas A&M University-Commerce, Commerce, Texas, 1989-present.
Associate Professor of Physics and Computer Science, East Texas State University, Commerce, Texas, 1980-1989.
Assistant Professor of Physics, Southern Arkansas University, Magnolia, Arkansas 1969-1975.
Instructor of physics, University of Arkansas at Little Rock, Little Rock, Arkansas, 1968-69.

FACULTY TEACHING LOAD (past five years)

Spring 2012:
Digital Logic and Circuitry - Physics 332 and 332 labs - 4 credit hours
Integrated Science - IS-1415 and labs - 4 credit hours
Advanced Microelectronics - Computer Science/Physics 432 - 3 credit hours
Advanced Microelectronics - Computer Science/Physics 552 - 3 credit hours
Advanced Physics Laboratory - Physics 441 - 2 credit hours

Summer 2012:
Advanced Microelectronics - Computer Science/Physics 552 - 3 credit hours
Micro Instr and Control - Computer Science 542 - 3 credit hours
College Physics II - Physics 1402 and lab - 4 credit hours
Honors Thesis - Physics 418
Research Lit & Techniques - Physics 595

Fall 2012:
Integrated Science I - IS 1415 and labs- 4 credit hours – (two sections taught)
Instrumentation and Control - Physics 492 / CSci 497 - 3 credit hours
Micro Instr and Control - Physics 542 and Computer Science 542 -
3 credit hours

Spring 2011:
Digital Logic and Circuitry - Physics 332 and 332 labs - 4 credit hours
Advanced Electricity and Magnetism - Physics 412- 3 credit hours
Advanced Microelectronics – Physics 432 – 3 credit hours

Advanced Microelectronics - Physics 552 - 3 credit hours
Advanced Microcontroller Electronics - Computer Science 552 - 3 credit hours
(2 sections of 552)
Advanced Physics Laboratory - Physics 441 - 2 credit hours
Classical Mechanics – Physics 489 – 3 credit hours

May-Mini 2011
Physics 597 – Optics – 3 credit hours

Summer 2011:
Advanced Optics – Physics 597 – 3 credit hours
Micro Instr and Control - Computer Science 542 - 3 credit hours
College Physics II - Physics 112 and 332 labs - 4 credit hours
Thesis – Physics 519 and Computer Science 518

Fall 2011:
Integrated Science I - IS 1415 - 4 credit hours
Instrumentation and Control - Physics 492 / CSci 497 - 3 credit hours
Micro Instr and Control - Physics 542 and Computer Science 542 -
3 credit hours
Advanced Physics Laboratory - Physics 441 - 2 credit hours

Spring 2010:
Digital Logic and Circuitry - Physics 332 and 332 labs - 4 credit hours
Advanced Mechanics - Physics 411 - 3 credit hours
Advanced Microelectronics - Physics 552 - 3 credit hours
Advanced Microcontroller Electronics - Computer Science 552 - 3 credit hours
(2 sections of 552)
Advanced Physics Laboratory - Physics 441 - 2 credit hours

Summer 2010:
College Physics II - Physics 112 and 332 labs - 4 credit hours
Theses – Physics 519 and Computer Science 518

Fall 2010:
Wave Motion, Acoustics, and Optics - Physics 333 and 333 Lab - 4 credit hours
Instrumentation and Control - Physics 492 / CSci 497 - 3 credit hours
Micro Instrumentation and Control -
Physics 542 and Computer Science 542 - 3 credit hours (2 sections total)
Advanced Physics Laboratory - Physics 441 - 2 credit hours
Theses - CSci 518 and Honors 418

Fall 2009:
Instrumentation and Control - Physics 492 – 3 credit hours
Micro Instrumentation and Control - Physics 542 and Computer Science 542 –
3 credit hours (3 sections total)
Theoretical Mechanics – Physics 511 – 3 credit hours

Spring 2009:
Digital Logic and Circuitry - Physics 332 and 332 labs – 4 credit hours
Optics – Physics 430 – 3 credit hours

Advanced Microelectronics - Physics 552 – 3 credit hours
Advanced Microcontroller Electronics - Computer Science 552 – 3 credit hours
(2 sections of 552)
Advanced Physics Laboratory – Physics 441 – 2 credit hours

Summer 2009:
Parallel Computing - Physics 489, Physics 572, and Computer Science 572 –
3 credit hours
GPU Processing – Computer Science 589 – 3 credit hours
Thesis – Physics 518

Fall 2009:
Instrumentation and Control - Physics 492 – 3 credit hours
Micro Instrumentation and Control - Physics 542 and Computer Science 542 –
3 credit hours (3 sections total)
Theoretical Mechanics – Physics 511 – 3 credit hours

SERVICE ACTIVITIES

Serving as the Physics Undergraduate Student Advisor
Served as a departmental instructor on the Project STEEM.
Served as chair or as a member of student thesis/dissertation committees
Served on the new Department of Physics Head selection committee.
Chair or member of faculty promotion committees.
Played a key role in the development of the advanced physics laboratory for upper-level
undergraduates.
Submitted HEF funds request for Advanced Lab, Electronics Labs, and Signal and Systems Lab.
Served as departmental representative on the Operation Spark wind tunnel project.
Provided aerial photographs of the recent changes to the university campus including the new
science building.
Consulting with our faculty and local and area businesses.
Relocation of the department to the new science building required many meetings within
the department and with facility personnel. Selecting and ordering new equipment for
this move also required considerable effort. Moving my office, research laboratory and
teaching laboratories to the new science building and preparing for the building
dedication ceremonies.
Member of the University Studies Committee
Member of the University Hearing Committee
Member of the Science Building Committee
Developed a new course in astrophotography.
Provided campus aerial photographs to the TAMU-C Office of Planning and Institutional
Effectiveness for inclusion with federal grant applications from this campus.
Participated as cinematographer at the Dallas Technological Exposition, Dallas
Convention Center.
Participated as cinematographer at the Winston Science Events at Fair Park in Dallas.
Promoted astronomical education by hosting local observation sessions for the total
lunar eclipse and the annual/special meteor displays.
Consulted on a meteorite search near Paris, Texas.

Recognized by the Greenville Christian School for assisting in a GalileoTower of Piza experiment with the science students.
Continued working on HP-UX and Linux X-applications.
Continued development of networking applications on microcomputer running various operating systems.
Member of the University's Academic Computing Advisory Committee
Continued consulting activity with the public and area businesses.
Sponsored a trip to UNT to participate in NSF funded program for advanced laboratory experiments for the physics 441 class.
Regional Science Fair Judge, Kilgore Junior College.
Member of Student Grievance Hearing Committee appointed by the Dean of Arts & Sciences.
University representative to a joint committee studying potential educational opportunities between E-Systems and the Texas A&M System.
Chairman of the Faculty Senate's Academic Practice Committee.
Member of the Academic Computing Advisory Committee.
Member of the University Studies Committee beginning in 1981.
Member of the University Computer Resources Planning Committee.
Served as a member of Faculty Senate.
Served as a member of Presidential Inaugural Forum Committee
Member of Graduate Council's Committee on Graduate Faculty, Research and Instruction.
Provided continuous scientific and technical consultation with area public schools and industry.
Assisted many faculty members and their students in technical matters related to microcomputer and associated hardware, software, and interfacing for applications in teaching and research.
Member of the Departmental Computer Resources Planning Committee.
Served as a judge at local, regional, and international science fairs and have supported many local student participants in their research activities.
Served as past sponsor of the Society of Physics Students and Sigma Pi Sigma - Physics Honor Society faculty sponsor.
Constructed a new poster presentation for the department.
Developed new lecture demonstrations
Performed image processing for students and faculty.
Promoted astronomical events for students and the public.
Member of the College of Arts and Sciences' University Reorganization Committee
Member of the college Tenure and Promotion Committee
Member of SACS Compliance Committee
Treasurer for TAMU-Commerce Sigma Xi chapter.

PROFESSIONAL ASSOCIATION MEMBERSHIPS

American Association of Physics Teachers.
Institute of Electrical and Electronics Engineers
American Society for Engineering Education

PROFESSIONAL ASSIGNMENTS, ACTIVITIES (NON TEACHING)

Design and fabrication team member for a $75K high vacuum thin film deposition system.
Design and fabrication team member for a laboratory cleanroom.
Advisor/mentor for four REU projects.
Acquired stabilized lasers and fiber optic positioners worth $30k with HEF funds.
Acquired a $100K class robotic system from Texas Instruments and the Science Place.
Participated in several research projects pertaining to speech waveform analysis, speech recognition, speech enhancement, and the development of high quality low bit-rate speech data compression algorithms and including speech quality testing. Work has been funded through E-Systems, and is a team effort involving three colleagues and numerous undergraduate and graduate students. This group has also developed several new fast algorithms and special digital signal processing systems. Present interests center on the development of new methods for characterizing speech signals for use in detecting fundamental perceptual information.,
Research of two topics in communication for E-Systems. These were (1) low angle electromagnetic propagation in the atmosphere and its dependence on meteorological hydrometers, and (2) secure spread spectrum communication techniques. Both areas are expected to be of increasing importance for future microwave and laser communication systems.
Participated in E-Systems research on theory and signal processing applications for several of the neural network models.
Started campus research group on (1) of vector subspace direction finding algorithms and (2) high resolution spectral analysis for infrared spectroscopy.
Recent research conducted in neural network processing of speech and vision signals. Presently in the process of developing algorithms for pre-processing signals for neural network input and neural networks capable of recognizing temporal patterns and enhancing speech signals.
Principal/Co-Investigator to (1) four research projects within academic institutions (2) four research projects for industry, and (3) eight industrially sponsored academic research projects. These have received total funding of approximately $500,000.
Advanced lab class activity at UNT's accelerator laboratory.
NSF ILI grant ($100k including federal, state, and industrial matching monies) submitted and funded for the physics advanced undergraduate laboratory.
Attended a NSF grant writing workshop in Washington DC.
Set up Web server and published first web page.
PVDF material grant donated for an electret project.
$500 semiconductor devices grant from Dallas Semiconductor.
$2,000 power supply denoted from Texas Instruments & the Science Place for a robotic mechanism
RF components denoted by a Dallas-based telecommunications industry for use in an array of microwave receivers for radio astronomy.
Industry matching grant submitted to Micron to support NSF-ILI grant.
Device grant from Analog Devices for MEM sensors, electrometers, ADCs, IF-Detectors.
Device grant from Motorola for MEM sensors.
Device grant from ZMD funded.
Device grant from Tech-Tools funded.
FEM code written for digitizing surfaces.
MEMS sensor applications with RISC microcontrollers.
Workshop on PLD applications and VHDL coding.
$10,000 equipment grant of AMD Athlon processors for a supercomputing cluster project.

$5,000 equipment grant from Agilent Technologies (formerly HP) to supplement the new oscilloscopes.
$8,000 Organized Research Grant (ORG) from A&M-Commerce Graduate School.
$15,000 equipment grant from Northrop-Grumman Electro-Optical Systems to support the above ORG.
Co-Investigator for a Texas A&M University – Regents Initiative grant.
Equipment Request for Electronics Instruction with the Junior Colleges written for computer science.
Co-Investigator for a $10,000 Toyota Tapestry grant to CPISD.

PUBLICATIONS

"A Michelson-Morley Experiment for the Advanced Physics Lab" by Charles Rogers and Richard Selvaggi, The National Conference on the Advanced Laboratory, University of Michigan, July 2009.

"An Eye in the Sky" presented with Jan Elmore at NSTA National Convention in Dallas, March 31, 2005.

"Major Martian Dust Storm Images" with Joe Bockemehl published in MarsWatch – David Klassen editor of the 2005-2006 Apparition of Mars, October 28, 2005.

KAP photograph of the campus for the 2005 graduate catalog cover.

An article entitled "Kite-Borne RC Photography" describing my KAP system was published in Fly RC Magazine, July 2004.

Article on my KAP efforts by the A&M System, Texas

Another article on my KAP activities in the A&M-Commerce Pride

Photographs and text for an exhibit on the exploration of Blanchard Caverns, OIRM August 2003.

Photographs in "Special Report: 2001 Leonid Meteor Shower" published by the Space Holding Corporation, December 2001.

NSF invited paper reporting data acquisition techniques at the national ASEE meeting in St. Louis, June 2000.

Provided field data and assistance for the AllTopoMaps GPS accuracy and Datum Shift report in July 2000.

Annual report to NSF for the ILI grant in June 1999.

Astronomical images of comet Hale-Bopp published on NASA's website spring 1997.

High Resolution Spectral Analysis presentation and paper in the proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing, Detroit, Michigan, 1995.

"Adaptive Analysis of Interferograms using a Neural Network and LMS", presentation and paper with PD. Young, E-Systems, Greenville Division, in Proceedings of the Thirteenth Ideas in Science and Electronics, pp 163-171, 1991.

"Self-Organization by Artificial Neural Networks", presentation at the NSF Chautauqua Short Course on Self-Organization, University of Texas at Austin, March, 1990.

"Application of the Computer printer Port for the Acquisition of Laboratory Data" presentation with R. Neal at the APS/AAPT/SPS joint fall meeting in San Antonio, October 1989.

"Neural Network Enhancement for a Two Speech Separation System", (including spatio-temporal processing) presentation and paper on the work in progress with D. Chien, M. Featherston, and K. S. Min published for the proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, Glasgow, UK, May 1989.

"Speech Separation with Artificial Neural Networks", presentation and paper with D. Featherston, and K.S. Min, in International Neural Network Society's Neural Networks, 1. S1, p.294, September 1988. (an extended abstract published in this journal for our poster presentation).

"Hardware Implementation of an Artificial Neural Network" paper with R.A. McClain and W.J.B. Oldham in the proceedings of the conference of the Society of Photo-Optical Instrumentation, Los Angeles, January 1988.

"Isolated Word Recognition with an Artificial Neural Network", presentation and paper with W.J.B. Oldham for the Education National Conference. Appears in ASE Conference Proceedings, 5, pp. 2045-2055, Portland, June 1988, (editors: L.P. Grayson and J.M. Biedenbach).

"A Fast Triangular Transform and Its Applications", K.S. Min, J. Carlisle, B. M. Doughty, C.E. Jones, and C. H. Rogers, IEEE International Conference on Acoustics, Speech, and Signal Processing – Dallas, Conference, Proceedings, 3, pp. 1811-1814, April, 1987 (editor: P.E. Papamichalis).

"Isolated Word Recognition with an Artificial Neural Network", C. H. Rogers, and W. J. B. Oldham, IEEE International Conference on Neural Networks – San Diego, Conference Proceedings, 4, pp. 435-443, June 1987 (editors: M. Caudill and C. Bulter).

Digital Speech Storage, Compression, and Synthesis – co-author with C.E. Jones, B.M. Doughty, and K.S. Min on monthly and annual reports for sub-contract research projects funded by E-Systems Greenville Division. These are as follows:

1.   Technical Report Number 7901-ARXX, 1983.
2.   Technical Report Number 7901-ARXX, 1984.
3.   Technical Report Number 7902-DRRG, 1985.
4.   Technical Report Number 7902-DRRG, 1986.
5.   Technical Report Number 7902-DRRG, 1987.
6.   Technical Report Number 7901-Multiple 1988.
7.   Technical Report Number 7902-DCCB, 1989.

8.	Technical Report Number 7902-DCCB, 1990.

"Multiple Signal Classification Techniques for a Specialized Antennae Array", presentation at E-Systems Garland Division, August 1990.

Speech Word Recognition with a Neural Network, IR&D Technical Report No. G3864.1401B, 160 pages, E-Systems Greenville Division, February 1987.

The Stimulated Annealing Technique with Applications to the Optimal Design of Electronic Circuits and Neural Networks, IR&D Technical Report No. G6012.00.07, 155 pages, E-Systems Greenville Division, June 1986.

Air Quality Monitoring of an Industrialized Community in Southwest Arkansas, C.H. Rogers and H. Johnson, Title I Project Report No. 75-018-008, 1975.

The Structural Determination of Simple Molecular Liquids, Doctoral Dissertation, University of Arkansas, 1972.

PAPERS PRESENTED

 "Optical Foucault Pendulum" with Dr. Richard Selveggi Fall Joint APS/AAPT/SPS Meeting at Texas Tech University, Lubbock, Texas, October 2012

"Mapping the Double-slit Diffraction Pattern" with Richard Selvaggi, and Clay Richardson, Fall Joint APS/AAPT/SPS Meeting at the University of Texas at San Antonio, October 2010

"A Reconfigurable Stepping Motor" by Charles Rogers and Richard Selvaggi, Texas Section Joint AIP-AAPT-SPS meeting, Tarleton State University, Stephenville, TX, April 2009.

"Replicating the Michelson-Morley Experiment" by Charles Rogers and Richard Selvaggi, Texas Section Joint AIP-AAPT-SPS meeting, Texas State University, San Marcos, TX, October 2009.

"3D Animation of Frenel's Equations" a presentation by my optics class of the first python animation of Fresnel's laws of reflection with an interactive graphical user interface at the at the Texas Section Joint AIP-AAPT-SPS meeting, Tarleton State University, April 2009. This presentation was awarded a monetary prize for a best paper.

Poster paper on robotic mechanisms presented with Hao-Liang Chen at the Texas Section Joint AIP-AAPT-SPS meeting at Tarleton State University, April 2009

"A Mathematical Model to Derive the Lorentz Factor, Zero Velocity, and Length Contraction (Finding a Privileged Reference Point)" with Richard Selvaggi at the Fall Joint Meeting of the Texas Sections of the AAPT and APS, Texas A&M University, October 2007.

"Using Zero Velocity to Explain the Michelson-Morley and 2007 Rogers-Selvaggi-Chen Experiment" with Richard Selvaggi at the Fall Joint Meeting of the Texas Sections of the AAPT and APS, Texas A&M University, October 2007.

"A One-way Light Beam Experiment" with Richard Selvaggi and Hao-Liang Chen at the Fall Joint Meeting of the Texas Sections of the AAPT and APS, Texas A&M University, October 2007.

A paper entitled "A Mobile Robot for Embedded System Instruction" presented at the Texas Region APS/AAPT/SPS meeting at Stephenville, April 2004.

A paper entitled "A New Linear Actuator" was presented at the Texas Region APS/AAPT/SPS meeting at Southwest Texas State University, March 2003.

A paper entitled "Surveying Sunsets" was presented at the Texas Region APS/AAPT/SPS meeting at Southwest State Texas University, March 2003.

A paper on a three-axis numerically controller router with Michael Carew, Chris Salch, Charles Smith, and Lucaci Vaczlavik at the Texas Region APS/AAPT/SPS meeting at SFAU, March 2002.

A new remote control system for aerial observations. Several versions of this work presented in local newspapers, two regional television broadcasts, an A&M-Commerce website news article, the Winter 2002 issue A&M-C Pride, the Nov-Dec issue of the A&M System newsletter, the December 2002 Board of Regents meeting, and the Signal and Systems Laboratory website.

Contributed Campus and Dallas photographs for the Graduate School's new Website spring 2003.

Stereoscopic digital video observational data for the 2002 Leonid Meteor Storm collected and was the subject of the winning poster presentation at the spring 2003 Sigma Xi Research Forum.

A paper on a 21-node Beowulf Cluster with Chris Salch at the Texas Region APS/AAPT/SPS meeting in Fort Worth, October 2001.

Presentation of a 21-node Beowulf Cluster with Chris Salch at the Raytheon-Greenville Division, November 2001.

Press release with considerable interest published on the web, regional newspapers, and A&M System newsletter on a parallel computer constructed in the summer of 2001.

A paper on thermal diffusion in solids with Dinh Truong at the Texas Region AAPT/SPS meeting in Tyler, March, 1999.

A paper on MCA design with a DAQ1200 card with Andrew Wolverton at the Texas Region AAPT/SPS meeting in Tyler, March, 1999.

A paper on advanced laboratory design at the Texas Region AAPT/SPS meeting in Tyler March, 1999.

A paper on embedded computing with NI's LabVIEW at the national AAPT summer meeting in San Antonio, August, 1999.

A paper on the theory of thermal diffusion in solids with Richard Martin at the TAMU-Commerce Sigma Xi Fifth Research Forum, April 1998.

A paper on the experimental measurement of thermal diffusion in solids with Aaron George and Dinh Truong at the TAMU-Commerce Sigma Xi Fifth Research Forum, April 1998.

A paper on instrumentation and control with Abidin Yildirim at the TAMU-Commerce Sigma Xi Fifth Research Forum, April 1998 which won top paper of the forum. This work helped Mr. Yildirim gain full-time employment in instrumentation and control, and later to enter the Ph.D. program at the University of Alabama.

A paper presented on campus with Richard Goodrich on the design of the multichannel digitizer for the rootop array radio-telescope not reported last year.

A paper on a new process for tri-color imaging with Richard Martin and John Yarborough at 1996 Fall Joint APS/AAPT/SPS meeting held at UNT, October 1997.

A paper on design of a rooftop array radio-telescope with Darin McIntier, Steve Dotson, and the Physics 418 class at 1996 Fall Joint APS/AAPT/SPS meeting held at UNT, October 1997.

A paper in signal processing presented with Casey Qualls, Graduate Assistant at 1996 Fall Joint APS/AAPT meeting held at UNT Arlington, October 1996. The paper was judged top paper of the meeting. The version of this paper was also presented for a local physics seminar in November 1996.

An abstract for a paper in signal processing was submitted with Kenneth Hunt, Graduate Assistant, for the Fall Joint APS/AAPT, UT Arlington in October 1996.

"Cold Nuclear Fusion Prospects" presentation given to Greenville Rotary Club luncheon, April, 1989. "Speech Separation with Artificial Neural Networks", an expanded version of the presentation given at INN Boston in September 1988. Given with K.S. Min to the Speech Steering Committee, E-Systems, Greenville Division, November 1988.

"A Fast Triangular Transform and Its Applications" presented with K.S. Min, J. Carlisle, B.M. Doughty, and C.E. Jones, IEEE ICASSP, April 1987.

"Isolated Word Recognition with an Artificial Neural Network" presented with W.J.B. Oldham, IEEE, CNN, June 1987 and also to the E-Systems Corporate IR&D, July 1987.

"Constructing a 32-bit Workstation for Scientific Computing" presented with B.M. Doughty,C.E. Jones, and K.S. Min, AIP Texas Section spring meeting, UTD, March 1986.

"A transportable TMS-32010 Signal Processing System" presented with K.S. Min, S. Speier, and J. Whitson, IEEE ICASSP, Martch 1985.

"Modeling Neural Networks" presented with W.J.B. Oldham, AIP Texas Section, Texas A&M University, November, 1985.

"Design and Construction of a Signal Averager for Applications in Surface Science Spectroscopy", presented with B.J. Wang and D.R. Chopra, AIP Texas Section Fall Meeting, TAMU, November 1985.

"Correlation of Objective Quality Measures to Subjective Intelligibility of Processed Speech" presented with C.E. Jones, B.M. Doughty, and K.S. Min, AIP Texas Section fall meeting, November 1985.

"The Application of Orthogonal Transforms to the Compression of Speech Signals", presented with J.A. Carlisle, K.S. Min, B.M. Doughty, and C.E. Jones, AIP Texas Section Fall Meeting, 1985.

"Objective Speech Quality Measurements" presented with B.M. Doughty, C.E. Jones, and K.S. Min, AIP Texas Section spring meeting, San Antonio, Texas, January 1984.

"Development of a Digital Speech Processing System" presented with B.M. Doughty,C.E. Jones, and K.S. Min, American Physical Society, Texas Section fall meeting, Denton, Texas, November 1983.

"A Case Study of an Industrially Sponsored Academic Research Project" presented with C.E. Jones, B.M. Doughty, and K.S. Min, AIP Texas Section fall meeting, NTSU, November 1983.

"Interfacing Microcomputers" several seminars presented to groups at East Texas State University, Stephen F. Austin University, and Lone Star Steel Incorporated, 1980-82.

"Data Acquisition with Microcomputers" National AAPT Summer Meeting, Las Cruces, New Mexico, June 1979.

HONORS AND AWARDS RECEIVED

Eagle Scout and Vigil Honor from the Order of the Arrow as an Explorer Scout of America
Pi Mu Epsilon, Mathematics Honor Society
Sigma Pi Sigma, Physics Honor Society
Sigma Xi, Scientific Research Society
Phi Delta Kappa, Professional Society in Education
National Teaching Fellow, a federal award for college teaching
Recognition as a pioneering cave explorer of Blanchard Springs Caverns, August 2003