

CURRICULUM VITAE

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EDUCATION

Ph.D. in Science Education, University of Colorado, Boulder, 1981. Dissertation: "An Experimental Study of Teaching Method, Spatial Orientation Ability, and Achievement in Selected Topics of Positional Astronomy".

M.A.T. in Planetarium Education, Michigan State University, East Lansing, 1973.

A.B. in Geology, Indiana University, Bloomington, 1971.

PROFESSIONAL EXPERIENCE

1996 - present

Professor of Physics & Planetarium Director, Angelo State University, San Angelo, Texas

1990 - 1996

Associate Professor of Physics & Planetarium Director (tenured in 1992), Angelo State University, San Angelo, Texas.

1985 - 1990

Assistant Professor of Physics & Planetarium Director, Angelo State University, San Angelo, Texas.

1983 - 1985

Planetarium Director, Aldrin Planetarium, South Florida Science Museum, West Palm Beach, Florida.

1980 - 1983

Education Director, Hansen Planetarium, Salt Lake City, Utah.

1976 - 1980

Educational Programs Specialist, Fiske Planetarium, University of Colorado, Boulder, Colorado.

1973 - 1976

Planetarium Director, Pierce Planetarium, Merrillville Community School District, Merrillville, Indiana.

1972 - 1973

Planetarium Teaching Assistant, Abrams Planetarium, Michigan State University, East Lansing, Michigan.

1971 - 1972

Science Teacher, Merrillville Community School District, Merrillville, Indiana.

PART-TIME PROFESSIONAL EXPERIENCE

Consultant For Planetarium Show Distribution

Hansen Planetarium
Salt Lake City, Utah
June, 1993

Associate Editor

"Focus on Education"
THE PLANETARIAN
International Planetarium Society
June, 1980 - July, 1990

Planetarium Design Consultant

University of Nebraska-Omaha
Omaha, Nebraska
June, 1986

Consultant and Script Writer

Hansen Planetarium
Salt Lake City, Utah
July, 1983 - September, 1983

Planetarium Design Consultant

Daverman & Associates, Inc.
Grand Rapids, Michigan
February, 1978

Astronomy Teacher

Boulder Valley School District
Boulder, Colorado
September, 1977 - May, 1978

PROFESSIONAL ORGANIZATION MEMBERSHIP

American Association of Variable Star Observers
American Astronomical Society
Astronomical Society of the Pacific
International Photoelectric Photometry Society
International Planetarium Society (Fellow)
San Angelo Amateur Astronomy Association
Southwest Association of Planetariums
Rocky Mountain Planetarium Association

ACTIVITIES IN PROFESSIONAL ORGANIZATIONS

Associate Editor, *PLANETARIAN*, the quarterly journal of the International Planetarium Society, 1980-1990.

Presented papers at numerous biennial meetings of the International Planetarium Society, 1974-present.

Presented papers at numerous annual meetings of the Southwest Association of Planetariums, 1985-present.

Hosted the 1989 annual meeting of the Southwest Association of Planetariums.

Served as Vice President (1989-90) and President (1993-94) of the Southwest Association of Planetariums.

MOST RECENT PUBLICATIONS

"Then and Now: Thirty Years of Advances in Planetaria and Small Telescopes", Proceeding of the Great Lakes Planetarium Association Meeting, Merrillvill, IN, October 20-23, 2006.

"A Remotely Controlled and Robotic Telescope", Proceedings of the Western Alliance Desert Skies Conference, Dorrance Planetarium, Arizona Science Center, Phoenix, Arizona, October 13-17, 1999.

"BV Photometry of Beta Lyrae", *Communications of the International Amateur-Professional Photoelectric Photometry Association*, No. 61, Fall, 1995, pp. 56-62.

"Hands-On Astronomy", *PLANETARIAN*, 21, No. 4, 1992, pp. 13-14.

"Spatial Ability, Sex, & Science", *PLANETARIAN*, 16, No. 4, 1988, pp. 37-41.

"Research in Science Education 1984", *PLANETARIAN*, 16, No. 2, 1987, p. 66.

"Mathematics Concepts in Commonly Used Secondary School Textbooks and Possible Implications for Post-Secondary Astronomy Education", *PLANETARIAN*, 13, No. 3, 1985, p. 30.

"National Surveys of Science Education: What Do They Tell Us About Astronomy Teaching in the Schools?", *PLANETARIAN*, 12, No. 4, pp. 28-29.

"The Planetarium/Spatial Ability Connection", *PLANETARIAN*, 11, No. 1, 1982, pp. 9-13.

GRANTS FUNDED

"Astronomy For the Elementary School Teacher", Summer Workshop and Academic Year Seminars, Principal Investigator, National Science Foundation, \$18,000, 1981-82.

"An Assessment of Planetarium Instruction in Improving the Spatial Abilities and Understanding of Lunar Motion Concepts of Pre-service Elementary School Teachers, Faculty Research Grant, Angelo State University, \$4,000; 1988.

"The Effect of a Combination of Planetarium and Laboratory Instruction in the Improvement of Student Spatial Ability, Faculty Research Grant, Angelo State University, \$4,000, 1989.

"Hands-on Astronomy for the Elementary School Teacher, Summer Workshop, Eisenhower Grant, Texas Higher Education Coordinating Board, \$19,611, 1990.

"Hands-on Astronomy for the Secondary School Teacher, Summer Workshop, Eisenhower Grant, Texas Higher Education Coordinating Board, \$18,158, 1991.

"Maximum Impact Computer Assisted Astronomy Instruction", Faculty Development Grant, Angelo State University, Developed Computer Assisted Instruction Module for Large-Group Astronomy Instruction, \$3,326, 1991.

"Initiation of Long-Term Projects in Astronomical Photoelectric Photometry, Faculty Research Enhancement Grant, Angelo State University, \$1,634, 1991.

"The Development of a Sequenced Course of Study in Astronomical Photometry and CCD Imaging for Advanced Physics Students", Faculty Development Grant, Angelo State University, \$5,570, 1993.

"Differential BV Photoelectric Photometry of Selected K and M Giant Stars", Faculty Research Enhancement Grant, Angelo State University, \$5,000, 1995.

"Large-Group Multimedia Computer Assisted Instruction for Physics 1301 (Fundamentals of Astronomy) and Physical Science 1301-1302 (Introduction to Physical Science), Curriculum Development Summer Grant, with Andrew B. Wallace, Angelo State University, \$10,507, 1996.

"The Establishment of a Remotely Controlled Astronomical Observatory at Angelo State University", National Science Foundation, \$23,000, 1997.

RESEARCH ACTIVITY

Methods of teacher education in astronomy topics. National Science Foundation, Faculty Research, & Eisenhower grants included exploring the interaction of spatial ability and the understanding of positional astronomy topics. A paper reporting the outcome of these studies was presented at the biennial meeting of the International Planetarium Society, Salt Lake City, Utah, June, 1992. Summaries were also published in the *PLANETARIAN*.

Stellar Photometry. BV photoelectric photometry of relatively bright classical cepheid variable stars (η Aquilae and δ Cephei and eclipsing binaries β Lyrae & β Persei). BV photometry of selected K and M giant stars, collaborative project with University of Texas, McDonald Observatory. Supervision of student research projects in stellar photometry.

NSF-sponsored workshop, "Research Techniques for Undergraduate Faculty at Small Observatories", participant. Harvard-Smithsonian Center for Astrophysics, Cambridge, Mass., Summer, 1993.

Carr Undergraduate Student Research Projects. Supervised numerous student research projects (see below).

SUPERVISION OF STUDENT RESEARCH PROJECTS

2008, "Stellar Photometry",

Doug Parsons

2003, "Photometric Detection of the Transit of HD 209458B",

Branyon May

Carr Academic Fellow

- 2003, "Determination of a Period Change in Eta Aquilae"
Alana May
Carr Academic Fellow
- 2002 "Photometry of HD 209458"
Alana Oliver
- 2002 "Determining the Distance to the Pleiades Star Cluster Using B-V Photometry"
Alana Oliver
- 1996 "Photoelectric Photometry of Stars with Suspected Planets"
Ronald Phinney
- 1996 "Photoelectric Photometry of SU Cygni"
Danny Saucer
- 1994 "BV Photometry of Selected K and M Giant Stars"
Russell Tarver & Kevin Bailey
- 1993 "BV Photometry of Beta Lyrae"
Charles Hines
Carr Undergraduate Research Fellowship
- 1991 "Stellar Photometry of Beta Lyrae"
Jeff Foreman

COMMUNITY SERVICE

President, San Angelo Amateur Astronomy Association, 1989-1993.

Numerous public astronomical observing events, including: Halley's comet (1985-86), Mars' perihelic opposition (1988), Solar eclipses (1989 & 1991), NASA video link for the Voyager close encounter with Neptune (1989), Astronomy Day activities (1987-92), Boy & Girl Scout "star parties", monthly public "star parties, Lunar eclipses, meteor showers, school "star parties".

Numerous television, radio, & newspaper interviews explaining and/or describing astronomical/space science events.

Summer in-service workshops for the San Angelo Independent School District (1987-1991).

UNIVERSITY SERVICE

Faculty Senate, 1998 - 2001.

Faculty Council, Secretary-Treasurer, 1987-1990.

Member of the Carr Academic Scholarship Advisory Committee (1989-93).

Member of the Carr Academic Scholarship Program Committee for the University self study (1990-92).

Supporter of the Society of Physics Students.

Taught continuing education course on astronomy in 1987, 1988, & 1991.

Taught astronomy course for Elderhostel program in 1987 & 1989.

Faculty Development Grant (Summer, 1991) was used to develop computer assisted astronomy instruction for astronomy classes. This was an effort to improve class instruction by using computer technology in the management, testing, and instruction of larger-group astronomy classes. These methods are now utilized in teaching of classes in the Department of Physics.

Faculty Development Grant (Summer, 1993) was used to develop a sequenced course of instruction for advanced physics students in stellar photometry. Sequence of instruction included text and lab instruction, computer simulations, data collection, analysis, and interpretation. These techniques have been curriculum with advanced students in the Department of Physics.

Attended 15th Annual Lilly Conference on College Teaching, Oxford, Ohio, November 17-19, 1995. Reported on meeting to College of Liberal and Fine Arts faculty.

Member of the 21st Century Informational Technology Task Force. Chairman of the Grant Writing Subcommittee.