

# Curriculum Vitae

**John D. Fix**

## **BIOGRAPHICAL INFORMATION**

### Office Address:

240 Optics Building  
University of Alabama in Huntsville  
Huntsville, AL 35899  
email: [fixj@uah.edu](mailto:fixj@uah.edu)

### Education:

1963 Purdue University, B.S. (Physics)  
1967 Indiana University, A.M. (Astrophysics)  
1969 Indiana University, Ph.D. (Astrophysics)

## PROFESSIONAL EMPLOYMENT

### Current Position:

Emeritus Dean and Professor  
University of Alabama in Huntsville, 2014 -

### Previous Positions:

Dean, College of Science,  
University of Alabama in Huntsville, 1999 - 2014

- Oversight of Departments of Atmospheric Science, Biological Sciences, Chemistry, Computer Science, Mathematical Sciences, and Physics.
- College of Science had about 100 faculty and 1,300 graduate and undergraduate students. Faculty generated \$17 million in external research funding.
- College of Science offered Ph.D. programs in atmospheric science, biotechnology, materials science, computer science, applied mathematics, physics, and optical science and engineering. College offered bachelors programs in biology, chemistry, computer science, earth system science, mathematics, and physics.
- Responsible for fiscal integrity, academic programs, and personnel of College of Science.
- Responsible for College of Science relationships with constituencies in Greater Huntsville community.
- Responsible for alumni relations, fundraising, and student recruitment.
- Responsible for planning in College.

Professor of Physics, University of Alabama in Huntsville, 1999 – 2014

Professor of Astronomy, University of Iowa, 1980-99

Associate Dean for Research and Development,

College of Liberal Arts, University of Iowa, 1992-98

- Responsible for faculty development, external funding, staff, operating budgets, space assignment.
- Shared responsibility for fundraising, faculty recruitment.
- College of Liberal Arts (now Liberal Arts and Sciences) has more than 40 departments and programs in the sciences, social sciences, arts, and humanities. It has 650 faculty members and over 10,000 undergraduate and graduate students.

President, Faculty Senate, University of Iowa, 1991-92

- Liaison between faculty and university administration.
- Represented faculty and university in dialogues with Governor, legislators, Board of Regents, alumni, representatives of Iowa and CIC universities.

Executive Secretary, NSF Astronomy Advisory Committee, 1977-78

Associate Professor of Astronomy, University of Iowa, 1974-80

NASA-ASEE Summer Faculty Fellow, 1972-73

Assistant Professor of Astronomy, University of Iowa, 1969-74

Physicist, Department of Defense, Ft. Meade, MD, 1967

## UNIVERSITY AND DEPARTMENTAL ACTIVITIES

### University of Alabama in Huntsville

#### University Committees:

Council of Deans 1999-2014  
Research Council 1999-2014  
Publications Board 1999-2014  
Administrative Council 1999-2014  
Leadership Team for SACS Reaffirmation 2004-06  
Chair, SACS Quality Enhancement Plan Committee 2004-06  
Director of Admissions Search Committee 2005-06  
Presidential Search Advisory Committee 2006-07

### University of Iowa

#### Awards:

M. L. Huit Achievement Award 1991  
Council on Teaching Excellence in Teaching Award 1991

#### University Committees:

Conflict of Interest in Sponsored Programs Committee 1998-99  
Research Magazine (*Illumine*) Advisory Board, Chair 1997-99  
National Advanced Driving Simulator Advisory Committee 1997-99  
Human Resource Information System Advisory Panel 1997-98  
Arts and Humanities Task Force 1996-98  
Campus Lighting Master Plan Committee 1995-99  
Graduate Issues Group (graduate union related issues) 1995-98  
Office of Information Technology Transition Committee 1994  
Steering Committee, Iowa-Grinnell Bridge Project 1992- 99  
Advisory Committee, Iowa Social Science Institute 1992-98  
Framework on Instructional Improvement Committee 1992-93  
Benchmark Committee 1992-93  
Search Committee, Dean of Liberal Arts 1992  
Past President, Faculty Senate 1992-93  
President, Faculty Senate 1991-92  
Vice President and President Elect, Faculty Senate 1990-91  
Committee for Institutional Advancement 1990-93  
Faculty Council 1990-92  
Budgetary Planning and Review Committee 1990-92  
Governmental Relations Committee 1990-91  
Center for Global and Regional Environmental Research 1989-99  
Executive Committee 1989-96  
Search Committee for Vice President for Research 1988-90  
Committee on Selection of Central Academic Officials 1988-91  
Faculty Senate 1987-93

Faculty Assembly 1985-92  
Foreign Civilization and Culture Coordinating  
Committee 1986-89  
Graduate Council 1985-88  
Unified Program Advisory Committee 1984-90  
Task Force on Teaching of Science and Mathematics 1983-85  
(Co-chair) 1983-85  
Natural Science Coordinating Committee 1981-83  
Non-Resident Fee Review Committee 1980-83  
(Chair) 1981-83  
New Dimensions in Learning Advisory Committee 1977-90  
Computer Based Education Committee 1973-76  
Library Committee 1972-75

Review Committees:

Iowa Institute of Hydraulic Research, Chair 1993  
President and Office of the President 1990  
Civil and Environmental Engineering 1984  
School of Religion 1983-84

Departmental Activities:

Astronomy Coordinator 1998-99  
Library Committee 1998-99  
Recruitment Committee 1998-99  
Associate Chair 1986-92  
Policy, Planning, and Budget Committee 1978-81, 1990-92  
Educational Operations Committee 1974-76, 1981-84, 1985-88

## **TEACHING EXPERIENCE**

Undergraduate Courses Taught:

Exploring the Cosmos (two-semester introduction) (UAH)  
Survey of Astronomy (one-semester introduction) (UAH)  
Modern Astronomy (introduction for non-majors)  
General Astronomy (introduction for majors)  
Introduction to Astrophysics I and II  
Solar System Astrophysics.  
Undergraduate Seminar (Origin of the Solar System)  
First Year Seminar (Life in the Universe)

Graduate Courses Taught:

Interstellar Matter  
Stellar Atmospheres  
Stellar Structure and Evolution  
Solar Terrestrial Physics

## Teaching of Physics and Astronomy

### Doctoral Dissertations Supervised:

Stacy E. Palen, Ph.D., 1998  
(Assistant Professor, Physics Department, Weber State University, Ogden, UT)  
Investigation of the Causes of the Variations of the OH Masers of U Her

Alan J. Collison, Ph.D., 1991  
(Software Development Engineer, Phillips Corporation, San Jose, CA)  
Radiative Transfer in Axisymmetric Circumstellar Envelopes

Phillip J. Zell, Ph.D., 1991  
(Test Specialist, ACT, Iowa City, IA)  
A Study of 1612 MHz Emission from Circumstellar Hydroxyl Masers

Michael L. Cobb, Ph.D., 1985  
(Professor of Physics, Southeast Missouri State University, Cape Girardeau, MO)  
Infrared Photometry and High-Resolution Imaging of OH/IR Stars

Mark J. Claussen, Ph.D., 1981  
(Staff Scientist, National Radio Astronomy Observatory, Socorro, NM)  
Polarization Properties of Main-Line OH Maser Emission from Circumstellar Shells of Late-Type Variable Stars

John D. Menietti, Ph.D., 1977  
(Senior Research Scientist, University of Iowa, Iowa City, IA)  
Luminosity Constant Models of Circumstellar Dust Shells and Resultant Spectra

Andrew A. Lacis, Ph.D., 1970  
(Senior Scientist, Goddard Institute for Space Studies, New York, NY)  
White Dwarf Envelope Structure and Its Effect on the Thermal Cooling Rate

### Master's Theses Supervised:

Stacy Palen, M.S., 1996  
Modeling Circumstellar Dust Shells

Julia Andersen, M.S., 1993  
A Study of Long-term Temporal Variations in Cosmic Maser Profiles of OH/IR Stars

Mark G. Mulhern, M.S., 1991  
The Dynamics of Circumstellar Shells

Isaac C. Chen, M.S., 1990  
The Use of Variance as an Indicator of Image Clarity

Brent W. Studer, M.S., 1989  
The Diffuse Ultraviolet Background and Its Relation to Neutral Hydrogen Column Density

Kenneth T. Johnson, M.S., 1989  
Temporal Variations in the Spectrum of IK Tau

Alan J. Collison, M.S., 1988  
On the Use of Simple Models of Circumstellar Dust Shells

Michael L. Cobb, M.S., 1982  
Effects of Interstellar Winds on OH Stellar Masers

Rodica Ionasescu, M.S., 1980  
A Search for OH Maser Emission in the Direction of Herbig-Haro  
Objects, IR Sources in Molecular Clouds, and T Tauri Stars

Gerald B. Murphy, M.S., 1976  
Observations of the RS CVn Binary

Robert B. Phillips, M.S., 1975  
Narrow-Band Spectrophotometry of Six Peculiar A Stars

Craig G. Rhombs, M.S., 1975  
Spectrophotometry of Some Algol-Like Eclipsing Binary Systems

Darrell L. Seeley, M.S., 1975  
An Adiabatic Model of Driven Pulsations of Mira Variable Stars

John D. Menietti, M.S., 1974  
A Model for a Circumstellar Shell

Linda J. Kelsey, M.S., 1972  
Spectrophotometry of Pluto

## **PROFESSIONAL ORGANIZATIONS AND ACTIVITIES**

### Professional Organizations:

American Astronomical Society 1967-  
Astronomical Society of the Pacific 1969-  
Council of Colleges of Arts and Sciences 1999-2014  
Committee on Research Universities 2002-05  
Nominating Committee 2005  
International Astronomical Union 1970-

### Professional Activities:

A.A.S. Harlow Shapley Lecturer 1984- 2005  
Scientific Consultant, American College Testing 1980-  
Referee, National Science Foundation 1975- 2005  
Referee, Astrophysical Journal, Astronomical Journal 1972- 2005

Universities Space Research Association, Trustee 2007-2013  
Audit Committee 2007-2008  
Chair, Compensation Committee 2008-2013  
Executive Committee 2009-2013  
Vice Chair of Board of Trustees 2011-2013

## **RESEARCH EXPERIENCE**

### Grant and Contract Support:

Solar Irradiance Monitoring Network  
NASA, 9/11/96 - 5/31/00, \$24,000  
John D. Fix, PI.

ISO Observations of Variable Circumstellar Shells  
NASA, 4/1/96 - 8/15/99, \$18,000  
John D. Fix, PI.

A Study of IRAS LRS Observations of Variable Circumstellar Shells - NAG 5-2668  
NASA, 8/15/94 - 8/14/96, \$34,000  
John D. Fix, PI.

The Structure of Circumstellar Shells - NAG 5-1174  
NASA, 8/1/89 - 7/31/91, \$50,647  
John D. Fix, PI.

Studies of OH/IR Stars - AST 88-20426  
NSF, 7/15/89 - 12/31/91, \$75,000  
John D. Fix, PI.

Investigation of the Visible and Ultraviolet Zodiacal Light  
with Dynamics Explorer - NAGW-1730  
NASA, 5/1/89 - 10/30/90, \$24,959  
John D. Fix, PI.

Investigation of the Diffuse Ultraviolet Background with  
Dynamics Explorer - NAG5-805  
NASA, 7/15/86 - 1/14/88, \$16,303  
John D. Fix, PI.

A Multidisciplinary Study of Cosmic Dust - NAGW-871  
NASA, 1/1/86 - 6/30/89, \$300,000  
John D. Fix, PI. Co-I's Goertz, Gurnett, Kleiber, Neff.

Investigation of the Diffuse Ultraviolet Background with  
Dynamics Explorer - NAG5-449  
NASA, 7/15/84 - 1/14/86, \$26,165  
John D. Fix, PI.

OH Observations and the Structure of Long Period Variable Circumstellar  
Mass Flows - AST 79-25076  
NSF, 2/15/80 - 9/30/82, \$24,400  
John D. Fix, PI.

Spectrophotometry of Binary Stars - AST 77-08942  
NSF, 6/1/77 - 11/30/79, \$11,700  
John D. Fix, PI.

Other Grant Activity:

Increasing Participation in CSEM through Scholarships  
NSF, 6/1/01 - 5/31/03, \$220,000  
Jorge I. Aunon and John D. Fix, co-PIs.

Refereed Research Publications:

Shalim, P., Murthy, Jayant, and Fix, John D.  
**Modelling the Diffuse UV Radiation Observed by Dynamics  
Explorer-1**  
Mon. Not. R. Astron. Soc., **408**, 53-56, 2010

R.L. Mutel and J.D. Fix  
**Comment on 'Detection of Small Comets with a Ground-Based  
Telescope' by Frank and Sigwarth**  
J. Geophys. Res., **108**, 2003

David E. Dunn, Lawrence A. Molnar, and John D. Fix  
**More Microwave Observations of Saturn: Modeling the Ring  
With a Monte Carlo Radiative Transfer Code**  
Icarus, **160**, 132-160, 2002

R.L. Mutel, K.G. Gayley, and J.D. Fix  
**Reply to Comments by Frank and Sigwarth**  
J. Geophys. Res., **106**, 24863-24868, 2001

R.L. Mutel and J.D. Fix  
**An Optical Search for Small Comets**  
J. Geophys. Res., **105**, 24907-24916, 2000.

Stacy Palen and John D. Fix  
**Models of OH Maser Variations in U Her**  
Astrophys. J., **531**, 391-400, 2000.

Philip J. Zell and John D. Fix  
**The Spatial Distribution of Circularly Polarized 1612 MHz  
OH Emission from VX Sgr**  
Astron. J., **112**, 252-257, 1996.



- John D. Fix and Mark G. Mulhern  
**Observations of the Acceleration Regions of OH/IR Stars**  
Astrophys. J., **430**, 824-828, 1994.
- Alan J. Collison and John D. Fix  
**1612 MHz OH Maser Emission from Axisymmetric Circumstellar Envelopes: Miras**  
Astrophys. J., **390**, 191-212, 1992.
- Alan J. Collison and John D. Fix  
**Axisymmetric Models of Circumstellar Dust Shells**  
Astrophys. J., **368**, 545-557, 1991.
- Philip J. Zell and John D. Fix  
**Circular Polarization in the 1612 MHz OH Maser Emission from OH/IR Stars**  
Astrophys. J., **369**, 506-514, 1991.
- Philip J. Zell and John D. Fix  
**The Discrete Nature of Circumstellar OH Maser Emission**  
Astron. J., **99**, 314-322, 1990.
- John D. Fix, John D. Craven and Louis A. Frank  
**Measurements of the Diffuse Ultraviolet Radiation**  
Astrophys. J., **345**, 203-209, 1989.
- Terry J. Jones, A. R. Hyland, John D. Fix, and Michael L. Cobb  
**Infrared Spectroscopy of Radio-Luminous OH/IR Stars**  
Astron. J., **95**, 158-171, 1988.
- John D. Fix and Michael L. Cobb  
**The Structure of Circumstellar Shells**  
Astrophys. J., **329**, 290-299, 1988.
- Stephen P. Reynolds and John D. Fix  
**The Flat-Spectrum Radio Source C1 in M33 is a Background Radio Galaxy**  
Astron. J., **96**, 1332-1335, 1988.
- Stephen P. Reynolds and John D. Fix  
**A Radio Search for Crab-Like Nebulae in M33**  
Astrophys. J., **322**, 673-680, 1987.
- John D. Fix and Michael L. Cobb  
**Infrared Spectroscopy of IRC+10420**  
Astrophys. J., **312**, 290-296, 1987.
- John D. Fix  
**High-Resolution 18 Cm Spectra of OH/IR Stars**  
Astron. J., **93**, 433-439, 1987.

Michael L. Cobb and John D. Fix  
**Infrared Speckle Interferometry and Imaging of Several OH/IR Stars**

Astrophys. J., **315**, 325-336, 1987.

Alan D. Welty, John D. Fix, and Robert L. Mutel

**The Distribution of Maser Emission in OH/IR Stars**

Astrophys. J., **318**, 852-867, 1987.

John D. Fix and Robert L. Mutel

**A Search for Type II Hydroxyl Masers in M33**

Astron. J., **90**, 736-737, 1985.

John D. Fix and Robert L. Mutel

**Radio and Infrared Observations of Optically Invisible Type II Hydroxyl Masers**

Astron. J., **89**, 406-410, 1984.

John D. Fix and Robert L. Mutel

**A Search for O<sup>18</sup>H Maser Emission from G351.8-0.5**

Astrophys. J., **283**, 653-654, 1984.

John D. Fix and Mark J. Claussen

**OH Maser Emission from Warm Variable Stars**

Astrophys. J., **287**, L35-L37, 1984.

J. D. Fix, R. L. Mutel, R. A. Gaume and M. J. Claussen

**Radio and Infrared Observations of the OH Maser Source OH 351.78-0.54**

Astrophys. J., **259**, 657-663, 1982.

Mark J. Claussen and John D. Fix

**Stokes Polarimetry of Main-Line OH Emission from Stellar Masers**

Astrophys. J., **263**, 153-159, 1982.

John D. Fix

**The Radial Velocity of IRC+10420**

Astrophys. J., **248**, 542-544, 1981.

Mark J. Claussen and John D. Fix

**Detection of 6 cm OH Emission from the Mira Variable AU Gem**

Astrophys. J., **250**, L77-L78, 1981.

John D. Fix, Mark J. Claussen and David J. Doiron

**18-cm Observations of an Outburst in V711 Tau**

Astron. J., **85**, 1238-1239, 1980.

John D. Fix, R. L. Mutel, J. M. Benson and Mark J. Claussen

**VLBI Observations of Main Line OH Emission from U Orionis**

Astrophys. J., **241**, L95-L98, 1980.

R. L. Mutel, J. D. Fix, J. M. Benson and J. C. Webber

**High Resolution OH Maser Observations of IRC+10420**

Astrophys. J., **228**, 771-779, 1979.

J. M. Benson, R. L. Mutel, J. D. Fix, and M. J. Claussen

**The Spatial Structure of a New OH Maser Feature in IRC+10420**

Astrophys. J., **229**, L87-L90, 1979.

John D. Fix

**Outbursts in the Main Line OH Emission from U Orionis**

Astrophys. J., **232**, L39-L42, 1979.

John D. Fix and Joel M. Weisberg

**A Low Detection Limit Search for OH Emission from IR Stars**

Astrophys. J., **220**, 836-840, 1978.

John D. Fix

**The Structure and Saturation of OH Maser Lines from Long  
Period Variable Stars**

Astrophys. J., **222**, L25-L27, 1978.

J. Douglas Menietti and John D. Fix

**Models of Mass Flow from Cool, Luminous Stars**

Astrophys. J., **224**, 961-968, 1978.

Craig G. Rhombs and John D. Fix

**The Ultraviolet Excess of U Cephei**

Astrophys. J., **212**, 446-450, 1977.

Craig G. Rhombs and John D. Fix

**Spectrophotometry of RS Canum Venaticorum, AR Lacertae,  
and UX Arietis**

Astrophys. J., **216**, 503-507, 1977.

John D. Fix and Robert L. Mutel

**OH Observations of Four Bipolar Nebulae**

Astrophys. Lett., **19**, 37-38, 1977.

John D. Fix and Steven R. Spangler

**A Search for Variable 430 MHz Continuum Emission from Red Giant Stars**

Astrophys. J., **209**, 503-504, 1976.

Craig G. Rhombs and John D. Fix

**Spectrophotometry of the Algol-Type Binaries U Cephei,  
U Sagittae, and SX Cassiopeiae**

Astrophys. J., **209**, 821-828, 1976.

Craig G. Rhombs and John D. Fix

**A Spectrophotometric Investigation of the Wave of RS CVn**

Acta Astron., **26**, 301-304, 1976.

John D. Fix

**C<sub>3</sub> as a Significant Opacity Source in Ba II Stars**

Astrophys. J., **203**, 463-465, 1976.

William A. Lane, John S. Neff, and John D. Fix

**A Measurement of the Relative Reflectance of Pluto at 0.86 Microns**

Publ. Astron. Soc. Pac., **88**, 77-79, 1976.

Robert S. Patterson, John D. Fix, and John S. Neff

**Spectrophotometry of R Coronae Borealis During the Minimum of 1974**

Astrophys. J., **204**, 838-841, 1976.

John D. Fix and Steven R. Spangler

**Spectrophotometry of the Flare Star BY Draconis**

*Astrophys. J.*, **205**, L163-L164, 1976.

John D. Fix and John S. Neff  
**A Comment on the Spectral Energy Distribution of Ba II Stars**  
*Mon. Not. R. Astron. Soc.*, **173**, 83p-85p, 1975.

Robert B. Phillips, John D. Fix, and John S. Neff  
**8 A Resolution Spectrophotometry of the Peculiar A Stars  
HD11066 and HD133029}**  
*Astrophys. J.*, **202**, L145-L146, 1975.

John S. Neff, William A. Lane and John D. Fix  
**An Investigation of the Rotational Period of Pluto**  
*Publ. Astron. Soc. Pac.*, **86**, 225-230, 1974.

John D. Fix and David R. Alexander  
**Solid Particles and Stellar Mass Loss**  
*Astrophys. J.*, **188**, L91-L92, 1974.

Larry A. Kelsey and John D. Fix  
**Polarimetry of Pluto**  
*Astrophys. J.*, **184**, 633-636, 1973.

Leif E. Andersson and John D. Fix  
**Pluto: New Photometry and a Determination of the Axis of Rotation**  
*Icarus*, **20**, 279-283, 1973.

A. A. Lacis and John D. Fix  
**An Analysis of the Light-Curve of Pluto**  
*Astrophys. J.*, **174**, 449-453, 1972.

John D. Fix  
**Comments on the Interior of Pluto**  
*Icarus*, **16**, 569-570, 1972.

John D. Fix  
**Some Possible Components of Circumstellar Grain Material**  
Astrophys. J., **161**, 356-360, 1970.

John D. Fix, John S. Neff and Larry A. Kelsey  
**Spectrophotometry of Pluto**  
Astron. J., **75**, 895-896, 1970.

Andrew P. Odell, Frederick J. Vrba, John D. Fix and John S. Neff  
**Spectrophotometry of Omicron Ceti**  
Publ. Astron. Soc. Pac., **82**, 883-888, 1970.  
John D. Fix

**The Formation and Growth of Carbon Particles in the Atmospheres of Cool Carbon Stars**  
Mon. Not. R. Astron. Soc., **146**, 37-49, 1969.

John D. Fix  
**The Formation and Growth of Carbon Particles in the Atmospheres of Mira Variables**  
Mon. Not. R. Astron. Soc., **146**, 51-55, 1969.

Other Research Publications:

John D. Fix, John D. Craven and Louis A. Frank  
**Measurements of the Diffuse Ultraviolet Radiation**  
The Galactic and Extragalactic Background Radiation,  
edited by S. Bowyer and C. Leinert [Dordrecht: Kluwer, 1990] 225-226.

Michael L. Cobb and John D. Fix  
**10 Micron Speckle Interferometry of OH/IR Stars**  
Mass Loss from Red Giants, edited by M. Morris and B. Zuckerman  
[Dordrecht: Reidel, 1985] 115-116.

A. A. Lacis and John D. Fix  
**Light Curve Inversion and Surface Reflectivity**  
Physical Properties of Minor Planets, ed. by T. Gehrels, NASA SP-267, 1972.

John D. Fix  
**A Model for Particle Formation in the Atmospheres of M Stars**  
Kitt Peak National Observatory Special Publication, 213-222, 1971.

Recent Abstracts:

M.M. Abbas, ..., J.D. Fix, ..., and M. Rosenberg  
**Laboratory Studies of the Optical Properties and Condensation Processes of Cosmic Dust Grains**  
NASA/CP 2002-211863, 180, 2002

D.E. Dunn, L.A. Molnar, and J.D. Fix  
**Radiative Transfer Code as Applied to Saturn's Rings**  
B.A.A.S., **31**, 1140, 1999.

R.L. Mutel and J.D. Fix  
**An Optical Search for Small Comets**  
American Geophysical Union Meeting, December 1999.

S.R. Spangler and J.D. Fix  
**Measurements of Stratospheric Ozone with Radioastronomical  
Instrumentation and Techniques**  
National Radio Science Meeting, January 1998.

S. Palen and J.D. Fix  
**VLBA Observations of Circumstellar Masers in U Her**  
B.A.A.S., **29**, 1288, 1998.

J.D. Fix and S.R. Spangler  
**The Astronomy Master's Program at the University of Iowa**  
B.A.A.S., **29**, 1306, 1998.

J.D. Fix and J. Murthy  
**The Ultraviolet Scattering Properties of Interstellar Dust**  
B.A.A.S., **30**, 871, 1998.

D.E. Dunn, L.A. Molnar, and J.D. Fix  
**Radiative Transfer in the Rings of Saturn**  
B.A.A.S., **30**, 1040, 1998.

J.D. Fix  
**The Polarization and Variability of Main Line OH Maser Emission from  
Long Period Variable Stars**  
B.A.A.S., **30**, 1349, 1998.

L.A. Molnar, D.E. Dunn, and J.D. Fix  
**Multiwavelength Radio Observations of Saturn's Rings at Low Inclinations**  
B.A.A.S., **29**, 1001, 1997.

D.E. Dunn, L.A. Molnar, and J.D. Fix  
**VLA Observations of Saturn's Rings at the Saturnian Equinox**  
B.A.A.S., **28**, 1124, 1996.

Textbook:

John D. Fix  
**Astronomy: Journey to the Cosmic Frontier**  
McGraw-Hill, Inc., New York, 1995, 1997, 1999, 2001, 2003, 2005, 2008, 2010.  
Once used at more about 100 colleges and universities.

Seminars and Colloquia at Other Institutions:

2000-

Christian Brothers University  
University of Alabama (Tuscaloosa)  
National Space Science and Technology Center

**1990-99**

Colorado College  
Hamline University  
Furman University  
Arecibo Observatory  
Florida State University  
Valley City State University  
University of Vermont  
Buena Vista College  
Middle Tennessee State University  
University of Wisconsin (Madison)

**1980-89**

University of Minnesota  
Indiana University  
West Virginia University  
University of Missouri (Rolla)  
University of Wisconsin (Whitewater)  
Illinois College  
University of Wisconsin (LaCrosse)  
Wheaton College  
Centre College  
Illinois State University  
Stetson University

**1970-1979**

Northwestern University  
Iowa State University  
University of Florida  
University of Wisconsin (Madison)  
Vanderbilt University  
National Radio Astronomy Observatory  
Arecibo Observatory,  
University of Central Florida  
Kansas State University  
St. Benedict's College  
University of Wisconsin (Platteville)  
University of Northern Iowa

**1968-69**

Ohio State University  
University of Kansas  
Vanderbilt University  
University of Iowa

*1/29/2021*