MiraCosta College Department of Physical Sciences, M/S 1 1 Barnard Dr. Oceanside, CA 92056 USA

rfrench@miracosta.edu P: 760.757.2121 x6506 F: 760.795.6804 https://tiny.cc/rfrenchmcc

CURRENT POSITION		
MiraCosta College (MCC)♂		Oceanside, CA
Professor of Astronomy and Program Di	rector	2004 – present
 facilitate undergraduate astrono 	my, physics, and physical scienc	e courses
 develop, implement, and revise of 	courses, curriculum, outcomes, a	and assessments
 manage budget, purchasing, pro 	gram review, staffing, etc.	
 interview and evaluate faculty 		
 participate and serve on departn 	nent, College, and District-wide	committees
• develop, coordinate, implement	, and oversee outreach activities	
Contar for Actronomy Education (CAE)	72	Tuccon A7
Associate Director		2020 - present
		2020 – present
EDUCATION		
University of Cape Town (UCT) 🛛		Cape Town, South Africa
PhD (in progress), Astronomy		2018 – present
Frameworks for Characterizing and Devel	oping Fluency-Inspiring Activities:	: A Social Semiotic
Perspective on Discipline Representations	and Intellectual Tasks in Astrono	my and Physics Education
University of Texas, Austin (UT) d		Austin, TX
PhD Candidate, Astronomy		2001–2004
Investigating the Width of the Main Seque	ence in Open Clusters	
MA, Astronomy		2000
Neutral Material in Planetary Nebulae En	velopes	
Middle Tennesse State University (MT		Murfraachara TN
PS with bonors. Physics (minor in Matha	nation)	
bo with honors, Physics (minor in Mathe	matics)	1996
Sections in This Document		single page abbreviated résumé 🛛
Teaching Experience		
Research Experience		
Outreach Experience		
Other Professional Experience		
Miscellaneous Advisory Board, Committ	ee, and Service Experience	
Telescope and Observing Experience		
Advisor and Mentor Experience		
Honors and Awards		
Grants and Fellowships		
Specialized Training		
Other Skills		
Professional Memberships		
References		
Publications	Presentations	
Refereed Manuscripts	Invited Talks	Panels and Podcasts
Books and Chapters	Contributed Talks	Workshops and Seminars
Other Manuscripts	Poster Papers	
Abstracts		

TEACHING EXPERIENCE	
MiraCosta College Professor of Astronomy and Program Director undergraduate astronomy, physical science, and physics courses modality = face-to-face (f2f) or online (OL), flipped (flip) is f2f with online prep + in-class activities level = general education (GE), upper division (UD), calculus-based (calc) audience = non-science (non-sci) or science, technology, engineering, math (STEM) majors/minors • Descriptive Astronomy (f2f, flip, OL, GE, non-sci) • Descriptive Astronomy Laboratory (f2f, GE, non-sci) • Life in the Universe (f2f, flip, GE, non-sci) • Introductory Astronomy (f2f, flip, GE, STEM) • Internship Studies in Astronomy (f2f, UD, STEM) • Fundamentals of Physical Science (f2f, flip, GE, non-sci) • Energy, Motion, and Matter: An Introduction to Physics and Chemistry (OL, GE, non-sci) • Principles of Physics I (f2f, GE, STEM, calc) • Internship Studies in Physics (f2f, UD, STEM)	Oceanside, CA 2004 – present
Private Tutor high school astronomy courses	Oceanside, CA 2019
University of Texas, Austin Lead 103L Laboratory Instructor and Teaching Assistant undergraduate astronomy courses • Astronomical Observations Laboratory (f2f, GE, non-sci) • Introduction to Astronomy (f2f, GE, non-sci) • Introductory Astronomy (f2f, GE, STEM) • History and Philosophy of Astronomy (f2f, GE, STEM)	Austin, TX 2000 – 2003
 Middle Tennessee State University Provide the second state of the second	Murfreesboro, TN 1995 & 1998
 Boyce Research Initiatives and Education Foundation Partner participate in and teach components of various astrophysical research programs mentor high school and undergraduate students doing astrophysical research astronomical observing using the Las Cumbres Global Telescope Network and the local Boyce Astronomical Remote Observatory project: "CCD Observations and Analyses of Double Star HJ 2668" 	San Diego, CA 2020 — present
Center for Astronomy Education Fellow & Associate Director (2020) • project: "From A Systematic Investigation of Faculty-Produced Think-Pair-Share	Tucson, AZ 2008 – present
 Project: Thom is systematic investigation of raceity infoduced minit rain brance Questions to Frameworks for Characterizing and Developing Fluency-Inspiring Activities" investigate instructors' understanding of introductory physics and astronomy students' thought processes develop robust active engagement curricular materials and methods test and validate curricular materials and concept inventories 	

RICA SIRBAUGH FRENCH	page 3 of 20
 project: "Teaching with Technology in the Classroom" project: "Assessing Student Learning & the Effect of Instruction" project: "National Archive for Astro 101 Think-Pair-Share Questions" project: "Thinking About Their Teaching: What Do Instructors Ask Us About?" 	
MiraCosta College	Oceanside, CA
 Education Researcher develop new and modify existing Ranking Tasks on various astronomy, physics, and chemistry topics, based on work by CAE collaborators collaborate to develop flipped studio physics courses project: "Three Years of the Astronomy Diagnostic Test" 	2004 – present
University of Texas, Austin	Austin, TX
Graduate Researcher	2001 - 2004
 project: "Investigating the Width of the Main Sequence in Open Clusters" take, reduce, and analyze photometric observations (o.9 m WIYN & 3.6 m CFHT) develop code to generate color-magnitude diagrams of simulated open clusters fit main sequence ridgelines via polynomial regression model residual distribution to determine effects of unresolved binaries, non-uniform metallicity, stellar rotation, and magnetic fields 	
Graduate Researcher	2001
 project: "Radial Velocities of Cepheids and RR Lyraes" reduce and analyze R≈60,000 echelle spectra (Harlan J. Smith 2.7 m) determine high-resolution radial velocities via cross-correlations determine metallicities via spectral synthesis 	
Graduate Researcher	1999 – 2000
 project: "Neutron Capture Elements in Very Metal-Poor Halo Stars" reduce and analyze spectra R≈30,000 spectra (HST STIS) determine abundances using MOOG spectral synthesis code characterize early galactic nucleosynthetic processes using abundances limit galactic age using independent thorium chronometer dating 	
Graduate Researcher	1998 – 2000
 project: "Neutral Material in Planetary Nebulae Envelopes" reduce and analyze R≈60,000 echelle spectra (Harlan J. Smith 2.7 m) determine column densities via line equivalent widths constrain masses and envelope kinematics via expansion velocities 	
Middle Tennessee State University	Murfreesboro, TN
 Undergraduate Research Intern NASA/University JOint VEnture (JOVE) program project: "Multi-Aspect Studies of Cataclysmic Variables" reduce and analyze spectroscopy of cataclysmic variables (CVs) investigate kinematics and dynamics of CVs via Doppler tomography 	1995 – 1998
Undergraduate Assistant	1995 – 1998
 project: "MTSU's First Scanning Tunneling Microscope" set up, calibrate, and test the department's first scanning tunneling microscope project: "Converting to Microcomputer-Based Labs in Introductory Physics" develop Excel spreadsheets and program macros for data analyses 	
National Optical Astronomy Observatories , Kitt Peak National Observatory	Tucson, AZ
Undergraduate Research Intern	1997

RICA SIRBAUGH FRENCH	page 4 of 20
 project: "WFPC2 Observations of Star Clusters in the Magellanic Clouds" reduce and analyze photometric data (<i>HST</i> WFPC2) determine relative ages, reddenings, and metallicities via methods independent of main sequence turnoff constrain stellar populations in the Magellanic Clouds and refine age-metallicity relation of Local Group 	
Southeastern Association for Research in Astronomy (SARA), Florida Institute of	Melbourne, FL
Technology♂	
Undergraduate Research Intern	1996
 project: "On the Road to Determining the White Dwarf Luminosity Function: A Comparison of Two Photometric Reduction Methods" 	
 take, reduce, and analyze photometric data (SARA 0.9 m) 	
 determine differential magnitudes and perform consistency comparisons between black- box reduction software and manual regressions 	
determine photometric paramaxes to improve the white dwarf luminosity function	
Maria Mitchell Observatory	Nantucket, MA
Undergraduate Research Intern	1995
 project: "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802" take reduce and analyze photometric data (NURO e e m) 	
 determine ages reddenings metallicities and distances via isochrone fitting 	
OUTREACH EXPERIENCE	
MiraCosta College	Oceanside, CA
Coordinator, all ages astronomy and physics outreach activities	2005 – present
 STEM Center events and public panel discussions science fairs and Kids@College events 	
 science fails and Klustaconiege events; public astronomical observing events; telesconic, binocular, and naked-eve observing 	
 hands-on workshops and STEM Camps 	
career & major fairs	
public talks at various venues	
• partner with formal and informal education venues: Oceanside High School, San Diego	
Air & Space Museum, Reuben H. Fleet Science Center, Project ASTRO, etc.	
 guide for Continuing Education Program excursions (e.g. local observatories) 	
University of Texas, Austin Star Parties 🕫	Austin, TX
Telescope Operator, public astronomical observing events	2002 – 2004
 telescopic, binocular, and naked-eye observing 	
Expanding Your Horizons Austin, TX	& Murfreesboro, TN
Coordinator, volunteer program (Austin ,TX)	1999 – 2001
 recruit, schedule, and manage 200+ volunteers for annual day-long women-only STEM 	
conference for girls in grades 5 – 8	
 collaborate with the Lone Star Girl Scout Council, Tomorrow's Women in Science and Technology, and UT 	
Volunteer, conference day crew (Murfreesboro, TN)	1997
 chaperone and mentor student participants during day-long women-only STEM conference for girls in grades 5 – 8 	
 introduce and present award to keynote speaker, astronaut Dr. Rhea Seddon 	
 collaborate with the Cumberland Valley Girl Scout Council and MTSU 	

RICA SIRBAUGH FRENCH	page 5 of 20
Middle Tennessee State University Observatory	Murfreesboro, TN
Telescope Operator, public astronomical observing events	1995 – 1998
 telescopic, binocular, and naked-eye observing 	
Loines Observatory [®]	Nantucket, MA
Telescope Operator, public astronomical observing events	1995
 telescopic, binocular, and naked-eye observing 	
SETLINSTITUTE® / NASA® / SOFIA Airborne Observatory®	Mountain View, CA
Airborne Astronomy Ambassador (AAA)	2021 – present
• engage in professional development for teachers in grades 5-14 to facilitate teachers'	
understanding of both the astrophysical principles involved in infrared (IR) astronomy and	
the pedagogy associated with teaching these concepts at the various grade levels	
modify existing SOFIA science-oriented IR astronomy curriculum designed to NGSS high	
school standards for use in both middle school (NGSS-aligned) and community college	
participate in STEM immersion experiences at NASA Armstrong Flight Research Center's	
Building 703 science research aircraft facility (Palmdale, CA), the nation's premier flight	
and space exploration concepts, and for execution of science mission observations	
 participate in research flights on NASA's Stratospheric Observatory for Infrared 	
Astronomy (SOFIA)	
 participate in the AAA community of practice connecting participants with astrophysics 	
and planetary science subject matter experts	
• implement refreshed SOFIA science-oriented IR astronomy curriculum in existing courses	
International Astronomical Union (IAU)	Paris, France
Member, Editorial Board for the journal AstroEDU ^{II} , International Edition	2020 – present
review/referee of science education activities submitted for publication	·
contribute feedback to the Steering Committee	
Working Group, C1 Astronomy Education Research & Methods	2019 – present
• develop and promote strategies for effective teaching and learning of astronomy at all	
levels as well as enhancing existing astronomy education research	
 recruit National Astronomy Education Coordinators for the Office of Astronomy 	
Education	
promote teacher training activities in all communities at all levels	
 develop, promote, and review the roadmap to Astronomy Literacy Goals via discussion 	
with STEM education groups worldwide	
• analyze and map wondwide astronomy controla to the Astronomy Literacy Goals	
Working Group, C1 Astronomy Education Resources	2019 – present
 disseminate and distribute high quality, open access astronomy education resources provide support for the Office of Astronomy Education with a framework for high quality. 	
astronomy education materials	
Member Commission C1 Astronomy Education and Development	2018 – present
Member, Commission Ca Communicating Astronomy With the Public	2010 present
Center for Astronomy Education	Tucson, AZ
collaborate with director to develop and implement professional development workshops	2020 – present
and research activities	
administer website	

RICA SIRBAUGH FRENCH	page 6 of 20
 Coordinator, Southwest Regional Teaching Exchange (Oceanside, CA) develop, coordinate, produce, and facilitate professional development conferences for instructors of STEM courses at all levels recruit co-facilitators, presenters, and participants 	2010 — present
 Facilitator, Professional Development and Teacher Training Workshops develop and co-facilitate situated apprenticeship experiences for instructors of introductory astronomy, Earth, and space science courses facilitate teacher training workshops in various formats and lengths 	2008 – present
 Fellow, Collaboration of Astronomy Teaching Scholars (CATS) nation's largest college-level astronomy education research initiative design, disseminate, and institutionalize innovative and effective approaches to the teaching and learning of undergraduate astronomy, Earth, and space science 	2008 – present
International Journal of Astronomy Education and Inclusion Inclusion	Groningen, Netherlands 2019 — present
 MiraCosta College Zerial Conter Tutors develop and facilitate training for physics and astronomy STEM Center tutors 	Oceanside, CA 2018 – present
 Liaison, Cal-Bridge Scholar Program at California State Polytechnic University, Pomona increase the number of California State University students completing bachelor's degrees and successfully entering PhD programs to study physics, astronomy, or a close related field 	2013 — present sely
 Liaison, CAMPARE Scholar Program at California State Polytechnic University, Pomona recruit undergraduates for a paid summer internship to participate in cutting edge research in astronomy, physics, planetary and space science, or astrobiology, at one of partner research institutions 	2009 – present f 15
 Team Lead, Math & Sciences Academic and Career Pathways (ACP) Program coordinate efforts to implement the California Guided Pathways Project in MiraCosta's Math & Sciences division develop and facilitate formal presentations and informal "brown bag" Q&A discussions with incoming freshmen during semesterly orientations develop and facilitate community-building activities for students, faculty, and staff coordinate participation of Math & Sciences ACP group with the five other MiraCosta / groups and the larger College-wide Guided Pathways Project 	2019 – 2020 s ACP
 Coordinator, Professional Development and Flexible Calendar Programs manage and administer Professional Development and Flexible Calendar Programs an budgets report to the California Community College Chancellor's Office responsible for District's professional development offerings for 750+ faculty develop and implement 100% electronic program administration and tracking recruit facilitators and speakers, from local to national, to present on everything from educational leadership to niche professional development conduct monthly meetings of the Professional Development Program Committee collaborate with College and District committees and administrators 	2011 – 2015 d

facilitate professional development experiences	
American Astronomical Society (AAS)	Washington, DC
 promote conversations about society resources, programs, benefits, issues, journals, et facilitate communication among members, officers, trustees, and staff target and facilitate member responses to policy action alerts recruit new members and develop systemic approaches to furthering student memberships 	c.
 Career Advisor, sponsored by the Committee on Employment share expertise in "Careers at Smaller Institutions" and public outreach co-facilitate Q&A sessions for job hunters at AAS booth during meetings staff table at Career Networking & Job Fair sessions during meetings 	2012 – present
 Judge, Chambliss Astronomy Achievement Student Awards evaluate graduate and undergraduate student submissions using multiple criteria 	2008, 2018 – 2021
 Board Member, Astronomy Education Board (now the Education Committee) provide oversight of, and advice on, the society's education-related activities, particular in the context of federal and state agencies' investments in science education develop and implement education-related strategies and activities recommend appropriate educational leadership roles for the society 	2012 – 2015 Iy
 Columnist, Spark: The AAS Education Newsletter recruit and work with authors to produce articles on issues relevant to Astro 101 write introductions to articles and highlight contributions 	2009 – 2011
 Working Group Member, U.S. International Year of Astronomy 2009 Working Group for Resear Experiences for Students, Teachers, and Citizen Scientists coordinate outreach and research activities for the International Year of Astronomy 	ch 2008 – 2009
Physics Education Research Topical Group (PERTG) [@] , American Association of Physics Teachers (AAPT) [@] Referee / Peer Reviewer	Washington, DC
• written reviews of manuscripts submitted for publication in the <i>Physics Education</i> <i>Research Conference (PERC) Proceedings</i> based on the Editorial Policies and Practices of the journal <i>Physical Review Physics Education Research</i>	
 Rubin Observatory (formerly Large Synoptic Survey Telescope, LSST) Invited Reviewer, Formal Education Focus Group review and evaluate preliminary educational materials provide feedback to Education and Public Outreach (EPO) team on formal and informal education programs 	Tucson, AZ 2018
 National Science Foundation (NSF) Reviewer, Improving Undergraduate STEM Education (IUSE): Education and Human Resources (EHR) Grant Proposals (panel and ad hoc) prepare written proposal reviews based on NSF's merit review principles and criteria develop consensus rankings and prioritized list for funding 	Washington, DC 2015 & 2017
Evaluation Systems Group of PearsonPanelist, California Subject Examinations for Teachers Standard Setting Conference• develop and recommend scoring standards	Sacramento, CA 2017
K-12 Alliance at WestEd Control of Cadre Discipline Expert, Early Implementation Initiative Teacher Training	rvine & San Diego, CA 2016

RICA SIRBAUGH FRENCH	page 8 of 20
 training K-8 teachers for the Next Generation Science Standards (NGSS) rollout development and implementation of full-scale interactive lessons for K-8 teachers adapt materials for use in K-8 classrooms development and implementation of pre- and post-instruction assessment instruments and rubrics 	
 North County Higher Education Alliance (NCHEA) Member, Board of Directors develop collaborations among member institutions and specifically target emerging priorities in higher education in north San Diego County, including issues relating to transferring among member institutions secure funding for organizational expenses, projects, and funding grants solicit, review, and prioritize grant proposals coordinate professional development opportunities among member institutions 	San Marcos, CA 2011 — 2015
 Program and Conference Organizing Committee Member "Teaching the 21st Century Student," second professional development conference "But I'm Not A Writing Instructor! Best Practices for Multi-Disciplinary Writing," first professional development conference 	2011 – 2013
 various textbook publishers Reviewer peer review textbook chapters and/or ancillaries submitted for publication 	various 2004 – 2013
Advisory Board, NASA Science Mission Directorate (SMD) Science Activation (SciAct) Program Integration Grant #80NSSC21M0009: "The NASA Community College Network: Bringing the Excitement of NASA Science to the Nation's Community Colleges"	2021 – 2025
Advisory Board, NSF IUSE: EHR Award #1610193: "From Symbol Manipulation to Meaning Making: A Cross-Disciplinary Video Development Project to Promote Fluency with Mathematics in Science"	2016 – 2020
Program and Conference Organizing Committee, "Learner-Centered Teaching Conference," Palomar College Active Learning Leaders professional development conference	2013 – 2014
Program Committee, "Cosmos in the Classroom: A Hands-On Symposium on Teaching Introductory Astronomy and Related Science," Astronomical Society of the Pacific	2013
Vice-President of Publicity, Golden Key National Honor Society, MTSU	1998
Vice-President, Society of Physics Students, MTSU	1997 – 1998
Treasurer, The Astronomical Society, MTSU	1995
TELESCOPE AND OBSERVING EXPERIENCE	
 MiraCosta College 6", 8", 10", 12", & 14" reflectors 60 mm & 70 mm refractors 40 mm Hα Coronado PST 	Oceanside, CA 2004 – present
• o 4 m remote reflectors: 2072 x 2048 photometry	global network

0.4 m remote reflectors: 3072 × 2048 photometry •

Kitt Peak National Observatory Kitt Peak, AZ o.9 m WIYN reflector: Half-Degree Imager (HDI) photometry 2018 •

RICA SIRBAUGH FRENCH	page 9 of 20
o.9 m WIYN reflector: S2KB photometry	2003
 o.9 m KPNO reflector: Tek 2048 photometry 	1997
24" Case Western Reserve Univ (CWRU) Burrell Schmidt reflector: S2KA photometry	
Canada–France–Hawaii Telescope	Mauna Kea, HI
3.6 m reflector: CFH12K photometry	2003 – 2004
University of Texas, Austin [™]	Austin, TX
16" Physics, Math, Astronomy Building reflector	2000 – 2004
• 9" Painter Hall refractor	
• 6", 8", & 10" reflectors	
Hubble Space Telescope	low Earth orbit
 2.4 m reflector: STIS spectroscopy (Austin, TX) 	1999 – 2000
 2.4 m reflector: WFPC2 photometry Tucson, AZ) 	1997
McDonald Observatory ²⁷	Ft. Davis, TX
• 2.7 m Harlan J. Smith reflector: 2dcoudé echelle spectroscopy	1998
Middle Tennessee State University Observatory	Murfreesboro, TN
• 16" John P. Wikswo reflector	1994 – 1998
Southeastern Association for Research in Astronomy (SARA) 여	Kitt Peak, AZ
• 0.9 m SARA reflector: 2048 × 2048 photometry	1996
Lowell Observatory 2	Flagstaff, AZ
 0.9 m National Undergraduate Research Observatory (NURO) reflector: 512 × 512 	1995
photometry	
Loines Observatory 🕫	Nantucket, MA
• 12" & 17" reflectors	1995
Maria Mitchell Vestal Street Observatory	Nantucket, MA
• 7.5" Alvan Clark refractor: photographic plates	1995
Joel T. Earwicker, undergraduate	2020 – 2021
 student intern with the Boyce Research Initiatives and Education Foundation 	
researching double stars to improve and update physical data and orbital parameters	
C. Matthew Lewis, undergraduate	2020
 student intern with the Boyce Research Initiatives and Education Foundation 	
researching double stars to improve and update physical data and orbital parameters	
Corey J. Fraga, undergraduate	2019
 student intern in the MCC STEM Center developing resources for astronomy, physics, 	
chemistry, physical science, engineering, and design courses	
 augmented reality (AR), virtual reality (VR), and 3D modeling and printing prototypes 	
Christian B. Lund, undergraduate	2016
• student intern in physics laboratory developing the exercise "Radioactive Decay and Half-	
Life of Ba-137m"	
Hunter C. Nicholson, undergraduate	2012 – 2013
 teaching science for non-scientists; public outreach and observing 	
April C. Davis, undergraduate	2012 - 2013

RICA SIRBAUGH FRENCH	page 10 of 20
 research in areas of space science, engineering, geophysics, astrobiology, planetary science, and planetary geology student intern with the CAMPARE program and NASA Ames multiple rotations with the Mars Desert Research Station public outreach and observing 	
 Michael J. Hill, undergraduate research on binary stars student intern with the San Diego State CSUURE program teaching science for non-scientists public outreach and observing website and other technology development 	2009 – 2012
 Adopt-a-Physicist (AIP/SPS, APS, AAPT, ComPADRE, NSDL, and NSF) online mentor for high school students studying physics and investigating the range of careers, backgrounds, interests, and educational levels of physics graduates 	2008
 NASA Means Business Student Competition (with the Texas Space Grant Consortium) advisor for undergraduate team that placed as finalists formal presentations to NASA officials at Johnson Space Center development and production of public service announcements to promote colonizing 	2002 – 2003

Mars

HONORS AND AWARDS	
Duncan McBride Award, PERTG, AAPT	2018
Outstanding Teaching Assistant, AAPT	2003
Provost's Award, MTSU	1998
President's Award Finalist, MTSU	1998
Physics Faculty Achievement Award, MTSU	1998
Society of Physics Students Service Award, MTSU	1998
Second Prize, Undergraduate Research Symposium, MTSU	1998
June S. Anderson Foundation Scholarship, MTSU	1997 & 1998
U.S. Representative, International Conference of Physics Students, Vienna, Austria	1997
Who's Who Among Students in American Colleges and Universities	1997
Outstanding Student Presentation, Tennessee Academy of Science	1995 & 1997
First Prize, Zone 8 Regional Meeting, Society of Physics Students	1997
First Prize, Undergraduate Research Symposium, MTSU	1997
Sigma Pi Sigma Physics Achievement Award, MTSU	1996
Physics Faculty Scholarship, MTSU	1995

GRANTS AND FELLOWSHIPS	
Education and Professional Development Mini-Grant, AAS	2019
Special Project and Philanthropy Award Travel Grant, AAPT	2018
Basic Skills Initiative Grant, MCC Student Success Program Committee	2013
Staff Development Grant, MCC Staff Development Advisory Committee	2013
Staff Development Grant, MCC Staff Development Advisory Committee	2012
MiraCosta College Foundation Mini-Grant, MCC Foundation	2011
Theodore Dunham, Jr. Grant for Research in Astronomy, Fund for Astrophysical Research, Inc.	2002
Doctoral Fellowship, American Association of University Women, Austin, TX branch	2002
University Cooperative Society Graduate Student Research Fellowship Finalist, UT	2000
Undergraduate Research Grant, MTSU	1995

SPECIALIZED I RAINING	
EEO Laws and Discrimination in Hiring Practices	2005, 2006, 2008, 2016, 2020, 2021
Military / Vet Net Ally	2019
LGBTQIA+ Safe Space	2013
machine shop: lathe, mill, drill press	1999
manual drafting	1991 – 1994

OTHER SKILLS

REFERENCES

programming languages: HTML, CSS, Bootstrap, JavaScript, Visual Basic/VBA, Jupyter, Python, FORTRAN, Pascal, BASIC, PHP, C, Perl

specialized software: AstroImageJ, Aladin, IRAF, SAOImage DS9, SM, Matlab, Mathematica, Zemax, LabVIEW, AutoCAD

operating systems: Windows, macOS, Linux, UNIX, Android, iOS

productivity applications: MS Office, Google products, Slack, OneDrive, Dropbox, Adobe Creative Suite typesetting software: LaTeX, TeX

learning management systems: Canvas, Blackboard

social media tools: LinkedIn, Twitter, Instagram

general: public speaking, effective communication, organization, attention to detail, logical and critical thinking, analytical analysis, objectivity, problem-solving, quick learner, work independently or with a team

PROFESSIONAL MEMBERSHIPS

- American Astronomical Society (AAS)
 ☐
- Astronomical Society of the Pacific (ASP)
- International Astronomical Union (IAU)^I
- American Association of Physics Teachers (AAPT) ♂
- Sigma Pi Sigma National Physics Honor Society ☑
- Golden Key National Honor Society ☑

Edward E. Prather	Philip Blanco	J. Allyn Smith
Professor and Executive Director	Lecturer	Professor
Center for Astronomy Education	Department of Physics,	Department of Physics, Engineering
Department of Astronomy	Astronomy, and Physical Sciences	and Astronomy
University of Arizona	Grossmont College [™]	Austin Peay State University
933 N. Cherry Ave.	8800 Grossmont College Dr.	P.O. Box 4608
Tucson, AZ 85721 USA	El Cajon, CA 92020 USA	Clarksville, TN 37044 USA
+1.520.621.6530	+1.619.644.7312	+1.931.221.6104
eprather@as.arizona.edu	philip.blanco@gcccd.edu	smithj@apsu.edu
loe Salamon	Denise Stenhenson	Debby Adler

Professor of Physics Department of Physical Sciences MiraCosta College 1 Barnard Dr. Oceanside, CA 92056 USA +1.760.757.2121 x6401 jsalamon@miracosta.edu Denise Stephenson Director Writing Center MiraCosta College 1 Barnard Dr. Oceanside, CA 92056 USA +1.760.757.2121 x6667 dstephenson@miracosta.edu

ORCID00000-0002-6372-006X

Administrative Assistant

Oceanside, CA 92056 USA

+1.760.757.2121 x6873

dadler@miracosta.edu

Academic Senate

1 Barnard Dr.

MiraCosta College *I* ⊂

Refereed Manuscripts

PUBLICATIONS

- 1. "CCD Measurements and Analyses of Double Star HJ 2668," J.T. Earwicker, **R.S. French**, P. Boyce, & G. Boyce. *Journal of Double Star Observations*, in prep.
- 2. "From A Systematic Investigation of Faculty-Produced Think-Pair-Share Questions to Frameworks for Characterizing and Developing Fluency-Inspiring Activities," **R.S. French** & E.E. Prather. *Physical Review Physics*

Education Research Focused Collection On Curriculum Development: Theory into Design, Vol. 16, 020138, 2020. https://doi.org/10.1103/PhysRevPhysEducRes.16.020138

- 3. "Uncovering the Unknown Unknowns of Peer Instruction Questions," **R.S. French** & E. Prather. 2018 Physics Education Research Conference (PERC) Proceedings, eds. A. Traxler, Y. Cao, & S. Wolf, 2019. http://dx.doi.org/10.1119/perc.2018.pr.French
- 4. "WFPC2 Observations of the Small Magellanic Cloud Intermediate-Age Populous Cluster NGC 416," K.J. Mighell, A. Sarajedini, + **R.S. French**. *Astrophysical Journal*, Vol. 494, L189, 1998. https://doi.org/10.1086/311180
- "WFPC2 Observations of Star Clusters in the Magellanic Clouds. II. The Oldest Star Clusters in the Small Magellanic Cloud," K.J. Mighell, A. Sarajedini, & R.S. French. Astronomical Journal, Vol. 116, p. 2395, 1998. https://doi.org/10.1086/300591

Books and Chapters

- 1. *Lecture-Tutorials for Introductory Astronomy*, 4th edition, E.E. Prather et al., in prep.
- 2. "Everyone's Universe: Teaching Astronomy in Community Colleges," **R.S. French**. Chapter 11 in Astronomy Education, Volume 1: Evidence based instruction for introductory courses, eds. S. Buxner & C. Impey; Bristol, UK: IOP Publishing Ltd., 2019. https://doi.org/10.1088/2514-3433/ab2b42ch11

Other Manuscripts

- 1. "Think-Pair-Share with Flashcards: Low-Tech, High Return," **R.S. French**. A Collection of GIFTs: Great Ideas For Teaching, Issue 13, No. 4, 2013. https://www.miracosta.edu/student-services/writing-center/_docs/Gifts_13_2013_000.pdf
- 2. "Engaging Students with ClassAction," **R. French** & K. Lee. *Cosmos in the Classroom 2010: A Hands-On Symposium on Teaching Introductory Astronomy Papers and Handouts from a National Conference*, ed. A. Fraknoi; San Francisco, CA: ASP, 2011.
- "Engaging Students with Simulations in the Classroom," K. Lee & R. French. Cosmos in the Classroom 2010: A Hands-On Symposium on Teaching Introductory Astronomy – Papers and Handouts from a National Conference, ed. A. Fraknoi; San Francisco, CA: ASP, 2011.
- 4. "Teaching Astro 101," **R.S. French**. *Spark: The AAS Education Newsletter*, Issue 11, 2011. https://aas.org/sites/default/files/2019-09/spark_2011_01_january.pdf
- 5. "Astro 101: The Majority of Those We Teach," **R.S. French** & D.L. Martino. *Spark: The AAS Education Newsletter*, Issue 10, 2010. https://aas.org/sites/default/files/2019-09/spark_2010_06_june.pdf
- 6. "Four-Year Light Curves for Selected Active Galactic Nuclei," E.N. Voyer, L.M. Hachmeister, K.S. Rumstay, & **R.S. French**. *International Amateur-Professional Photoelectric Photometry Communications*, No. 101, p. 71, 2005.
- 7. "Neutral Material in Planetary Nebulae Envelopes," R.S. French. M.A. Thesis, UT, 2000.
- "Absorption Lines from Neutral Envelopes of Planetary Nebulae," R. Sirbaugh French, H.L. Dinerstein, & C. Sneden. Asymmetrical Planetary Nebulae II: From Origins to Microstructures, ASP Conference Series, Vol. 199, eds. J.H. Kastner, N. Soker, & S. Rappaport; San Francisco, CA: ASP, p. 325, 2000.
- "Neutral Material in Planetary Nebulae Envelopes," R.S. French, H.L. Dinerstein, & C. Sneden. *Revista Mexicana de Astronomía y Astrofísica, Serie de Conferencias*, eds. J. Cantó & L.F. Rodríguez; Vertiz-Narvarte, Mexico, DF: Grupo Edición, Vol. 10, p. 230, 2000.
- "The Oldest Star Clusters in the Small Magellanic Cloud," K.J. Mighell, A. Sarajedini, & R.S. French. IAU Symposium 190, New Views of the Magellanic Clouds, eds. Y.-H. Chu, N.B. Suntzeff, J.G. Hesser, & D.A. Bohlender; Boston, MA: Kluwer, p. 445, 1999.
- 11. "WFPC2 Observations of the Small Magellanic Cloud Intermediate-Age Populous Cluster NGC 416," K.J. Mighell, A. Sarajedini, & **R.S. French**. Technical Report, NOAO-Preprint-777, 1998.
- 12. "On the Road to Determining the White Dwarf Luminosity Function: A Comparison of Two Photometric Reduction Methods," **R. Sirbaugh French** & T.D. Oswalt. *International Amateur-Professional Photoelectric Photometry Communications*, No. 66, p. 57, 1997.

Abstracts

1. "Issues, Principles and Practices: Designing Effective Remote and Hybrid Classes – Part 1," E. Prather, A. Gauthier, **R.S. French**, L. Strubbe, & N. Gugliucci. *Embracing The Future: Astronomy Teaching and Public*

Engagement, ASP Conference Series, Vol. 531, eds. G. Schultz, J. Barnes, A. Fraknoi, & L. Shore; Bristol, San Francisco, CA: ASP, p. 13, 2021.

- "Issues, Principles and Practices: Designing Effective Remote and Hybrid Classes Part 2," A. Gauthier, E. Prather, R.S. French, L. Strubbe, & N. Gugliucci. *Embracing The Future: Astronomy Teaching and Public Engagement, ASP Conference Series*, Vol. 531, eds. G. Schultz, J. Barnes, A. Fraknoi, & L. Shore; Bristol, San Francisco, CA: ASP, p. 31, 2021.
- 3. "Student Representation Tasks: A Unique Fluency-Inspiring Activity," **R.S. French** & E.E. Prather. *Bulletin of the American Astronomical Society*, Vol. 53, Issue 1, meeting #237, id 547.05, 2021.
- 4. "CCD Measurements and Analyses of Double Star HJ 2668," J.T. Earwicker, **R.S. French**, J.P. Boyce, & G. Boyce. *Bulletin of the American Astronomical Society*, Vol. 53, Issue 1, meeting #237, id 128.04, 2021.
- 5. "The Astrophysical Fluency Project: A Framework for Generating Fluency-Inspiring Questions," **R.S. French**. *AstroEDU: Astronomy Education: Bridging Research & Practice,* Garching, Germany, 2019.
- 6. "The Astrophysical Fluency Project Part II: Generating Fluency-Inspiring Opportunities," E. Prather & **R.S. French**. *Bulletin of the American Astronomical Society*, p. 694, meeting #233, id 417.03, 2019.
- 7. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," **R.S. French** & E. Prather. *Bulletin of the American Astronomical Society*, p. 693, meeting #233, id 417.02, 2019.
- "Uncovering the Unknown Unknowns of Peer Instruction Questions," R.S. French & E. Prather. *Physics Education Research Conference (PERC) 2018 Contributed Poster Abstracts*, https://www.compadre.org/per/perc/2018/Detail.cfm?id=7253, 2018.
- 9. "The Astrophysical Fluency Project: A Framework for Generating Fluency-Inspiring Opportunities," **R.S. French** & E. Prather. *SCAAPT Meeting Archive*, http://scaapt.org/meetings/fall-2018, 2018.
- "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT Conference Abstract Archive, https://aapt.org/Conferences/abstract_archiveDetail.cfm?AID=27216, 2018.
- 11. "Increasing the Availability of Professional Development Opportunities Through the Center for Astronomy Education (CAE) Regional Teaching Exchanges," M.C. LoPresto, G. Brissenden, A.D. Forestell, R.S. French, J. Lutz, D.L. Martino, W.L. Powell Jr., P.E. Robinson, A.L. Rudolph, & Collaboration of Astronomy Teaching Scholars (CATS). Bulletin of the American Astronomical Society, Vol. 43, 2011.
- "A Multi-Institution Study on the Effectiveness of ClassAction to Promote Student Understanding in Astro 101," K.M. Lee, **R.S. French**, D.R. Hands, D.R. Loranz, D.L. Martino, A.L. Rudolph, J. Wysong, T.S. Young, E.E. Prather, & Collaboration of Astronomy Teaching Scholars (CATS). *Bulletin of the American Astronomical Society*, Vol. 42, p. 415, 2010.
- 13. "Kepler's Laws In An Introductory Astronomy Laboratory: The Influence of A Computer-based Simulation Used With Multiple Variables," L. Ruzhitskaya, **R.S. French**, & A. Speck. *Bulletin of the American Astronomical Society*, Vol. 41, p. 753, 2009.
- 14. "Citizen Science for the International Year of Astronomy," A. Price, C. De Pree, L. Fortson, **R.S. French**, M. Hartman, S. Jacoby, J. Raddick, & R. Stencel. *Bulletin of the American Astronomical Society*, Vol. 41, p. 411, 2009.
- 15. "Results from the Astronomy Diagnostic Test: 3 Years at MiraCosta College," **R. Sirbaugh French**. Bulletin of the American Astronomical Society, Vol. 39, p. 739, 2007.
- 16. "A Photometric Analysis of Four Active Galaxies," E.N. Voyer, L.M. Hachmeister, K.S. Rumstay, & **R.S. French**. Bulletin of the American Astronomical Society, Vol. 37, p. 1397, 2005.
- 17. "The u'g'r'i'z' Southern Hemisphere Standard Star Network," J.A. Smith, S.S. Allam, D.L. Tucker, J.L. Stute, C.T. Rodgers, C. Stoughton, T.C. Beers, **R.S. French**, & P.M. McGehee. *Bulletin of the American Astronomical Society*, Vol. 37, p. 1379, 2005.
- 18. "Investigating the Width of the Main Sequence in Open Clusters," **R.S. French** & T. von Hippel. *Bulletin of the American Astronomical Society*, Vol. 35, p. 734, 2003.
- 19. "Radial Velocities of Cepheids and RR Lyraes," **R.S. French**, T.G. Barnes, T. Montemayor, & I. Skillen. *Bulletin of the American Astronomical Society*, Vol. 33, p. 849, 2001.
- 20. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," **R.S. French**. *Bulletin of the American Astronomical Society*, Vol. 32, p. 729, 2000.

- 21. "Neutron-Capture Elements in Very Metal-Poor Halo Stars," **R.S. French**, C. Sneden, J.J. Cowan, J.E. Lawler, F. Primas, T.C. Beers, & J.W. Truran. *Bulletin of the American Astronomical Society*, Vol. 32, p. 738, 2000.
- 22. "Neutron-Capture Elements in Low Metallicity Halo Giants," C. Sneden, **R.S. French**, J.J. Cowan, J.E. Lawler, F. Primas, T.C. Beers, & J.W. Truran. *Bulletin of the American Astronomical Society*, Vol. 31, p. 1434, 1999.
- 23. "High Spectral-Resolution Observations of Absorption Lines From Neutral Envelopes of Planetary Nebulae," **R.S. French**, H.L. Dinerstein, & C. Sneden. *Bulletin of the American Astronomical Society*, Vol. 30, p. 1275, 1998.
- 24. "WFPC2 Observations of the Small Magellanic Cloud Intermediate-Age Populous Cluster NGC 416," **R.S. French**, K.J. Mighell, & A. Sarajedini. *Journal of the Tennessee Academy of Science*, Vol. 73, p. 33, 1998.
- 25. "WFPC2 Observations of the Small Magellanic Cloud Intermediate-Age Populous Cluster NGC 416," **R.S. French**, K.J. Mighell, & A. Sarajedini. *Scientia, Journal of Undergraduate Research*, MTSU, Vol. 2, No. 1, 1998.
- 26. "WFPC2 Observations of the Small Magellanic Cloud Intermediate-Age Populous Cluster NGC 416," **R.S. French**, K.J. Mighell, & A. Sarajedini. *Bulletin of the American Astronomical Society*, Vol. 29, p. 1337, 1997.
- 27. "WFPC2 Observations of Populous Intermediate-Age Star Clusters in the Small Magellanic Cloud," K.J. Mighell, A. Sarajedini, & **R.S. French**. Bulletin of the American Astronomical Society, Vol. 29, p. 1337, 1997.
- 28. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," **R.S. French**, K.A. Lewis, & E.D. Friel. *Conference Programme: XII International Conference for Physics Students*, Vienna University of Technology, p. 38, 1997.
- 29. "On the Road to Determining the White Dwarf Luminosity Function: A Comparison of Two Photometric Reduction Methods," **R.S. French** & T.D. Oswalt. *Scientia, Journal of Undergraduate Research*, MTSU, Vol. 1, No. 1, 1997.
- 30. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," **R.D. Sirbaugh**, K.A. Lewis, & E.D. Friel. *Scientia, Journal of Undergraduate Research*, MTSU, Vol. 1, No. 1, 1997.
- 31. "On the Road to Determining the White Dwarf Luminosity Function: A Comparison of Two Photometric Reduction Methods," **R.S. French** & T.D. Oswalt. *Bulletin of the American Astronomical Society*, Vol. 28, p. 1376, 1996.
- 32. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," **R.D. Sirbaugh**, K.A. Lewis, & E.D. Friel. *Journal of the Tennessee Academy of Science*, Vol. 71, p. 22, 1996.
- 33. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," **R.D. Sirbaugh**, K.A. Lewis, & E.D. Friel. *Bulletin of the American Astronomical Society*, Vol. 27, p. 1439, 1995.

PRESENTATIONS

Invited Talks

2021

1. "Everyone's Universe: Teaching Astronomy in Community Colleges," **R.S. French**. NASA Community College Network, SETI Institute; online.

2019

- 2. "An Anchor That Tethers This Unstable Planet," **R.S. French**. Learning is For Everyone (LIFE), MCC San Elijo; Cardiff, CA.
- 3. "An Anchor That Tethers This Unstable Planet," R.S. French. LIFE, MCC; Oceanside, CA.

2018

- 4. "The Astrophysical Fluency Project: A Framework for Generating Fluency-Inspiring Opportunities," **R.S. French** & E. Prather. AAPT Southern California Section meeting, MCC; Oceanside, CA.
- 5. "A Big Idea... (or Never Let Reality Keep You From Doing Something Stupid...)," **R.S. French**. Scholarscapes TEDxMCC talk, MCC; Oceanside, CA.
- 6. "What Does An Astronomer Do?" **R.S. French**. College & Career Day, Perry Lindsey Academy; Long Beach, CA.

2014

- 7. "Hubble's Lasting Legacy: 24 Years of Discovery," R.S. French. LIFE, MCC; Oceanside, CA.
- 8. "Sampling the Mathematical Universe," R.S. French. Math Club, MCC; Oceanside, CA.

2012

9. "Astronomy Through the Ages," R.S. French. Julian StarFest; Julian, CA.

2011	
10	. "Star Clusters: Populations With Stories to Tell," R.S. French. Physics Club, MCC; Oceanside, CA.
11	"What's Next for NASA? A Tribute to the Space Shuttle Program and What's Next in A Post-Shuttle Era,"
	R.S. French. LIFE, MCC; Oceanside, CA.
12	"Astronomy in the 21 st Century." R.S. French . LIFE, MCC: Oceanside, CA.
2010	
12	"We've Come A Long Way Baby! Astronomy in the 21 st Century " R S French MCC Night at the Library San
	Diego Public Libraries – Encipitas Branch: Encipitas (A
	Netronomy in the ass Contury " D.S. Franch Douben H. Eleat Science Conter, San Diago, CA
14	Astronomy in the 21° Century, R.S. French . Reuben H. Fleet Science Center; San Diego, CA.
2009	
15	"Space Telescopes," R.S. French. San Diego Space Society, San Diego Public Libraries – Serra Mesa-Kearny
	Mesa Branch; San Diego, CA.
16	. "The International Year of Astronomy and You," R.S. French . Orange County Space Society, Orange County
	Public Libraries – Irvine Heritage Park Branch; Irvine, CA.
17	"The International Year of Astronomy and You," R.S. French. Yuri's Night, San Diego Space Society & The
	Mars Society – San Diego; Oceanside, CA.
18	. "The International Year of Astronomy (IYA) and You," R.S. French . LIFE, MCC; Oceanside, CA.
2005	
19	. "What's the Buzz About Mars? (A Mars Party Prequel)," R.S. French . MCC: Oceanside, CA.
1998	
- _ 20	"WEPC2 Observations of Star Clusters in the Magellanic Clouds " R S French K I Mighell & A Saraiedini
20	Stellar Seminar Department of Astronomy LIT: Austin TX
~	
Contr	buted Talks
2019	
1.	"The Astrophysical Fluency Project Part II: Generating Fluency-Inspiring Opportunities." E. Prather & R.S.
	French (designee). 233 rd AAS meeting; Seattle, WA.
2.	French (designee). 233 rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233 rd AAS
2.	French (designee). 233 rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233 rd AAS meeting; Seattle, WA.
2. 2018	French (designee). 233 rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233 rd AAS meeting; Seattle, WA.
2. 2018	French (designee). 233 rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233 rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E.
2. 2018 3.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC.
2. 2018 3. 2012	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC.
2. 2018 3. 2012	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)." R.S. French.
2. 2018 3. 2012 4.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting. California State University. San Marcos: San Marcos: CA
2. 2018 3. 2012 4.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos; CA. "IEPEEL High-Quality Interactive Resources for Teaching Astronomy "R S. French Meeting of the AAPT
2. 2018 3. 2012 4. 5.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting. California State University, San Marcos; San Marcos, CA.
2. 2018 3. 2012 4. 5.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA.
2. 2018 3. 2012 4. 5. 2000	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Devence for Devence Metals in Ultre Metal Devence State "B S. French active AAS meeting. Devence ANT Southern California Section meeting, California State University, San Marcos; San Marcos, CA.
2. 2018 3. 2012 4. 5. 2000 6.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY.
2018 3. 2012 4. 5. 2000 6. 1997	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY.
2018 3. 2012 4. 5. 2000 6. 1997 7.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," R.S. French, K.A. Lewis, & E.D.
2. 2018 3. 2012 4. 5. 2000 6. 1997 7.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," R.S. French, K.A. Lewis, & E.D. Friel. XII International Conference for Physics Students, Vienna University of Technology; Vienna, Austria.
2018 3. 2012 4. 5. 2000 6. 1997 7. Poste	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," R.S. French, K.A. Lewis, & E.D. Friel. XII International Conference for Physics Students, Vienna University of Technology; Vienna, Austria.
2018 3. 2012 4. 5. 2000 6. 1997 7. Poste 2021	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," R.S. French, K.A. Lewis, & E.D. Friel. XII International Conference for Physics Students, Vienna University of Technology; Vienna, Austria.
2018 3. 2012 4. 5. 2000 6. 1997 7. Poste 2021 1.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," R.S. French, K.A. Lewis, & E.D. Friel. XII International Conference for Physics Students, Vienna University of Technology; Vienna, Austria. "Papers "Student Representation Tasks: A Unique Fluency-Inspiring Activity," R.S. French & E.E. Prather. 237th AAS
2. 2018 3. 2012 4. 5. 2000 6. 1997 7. Poste 2021 1.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," R.S. French, K.A. Lewis, & E.D. Friel. XII International Conference for Physics Students, Vienna University of Technology; Vienna, Austria. Papers "Student Representation Tasks: A Unique Fluency-Inspiring Activity," R.S. French & E.E. Prather. 237th AAS meeting; online.
2018 3. 2012 4. 5. 2000 6. 1997 7. Poste 2021 1. 2.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," R.S. French, K.A. Lewis, & E.D. Friel. XII International Conference for Physics Students, Vienna University of Technology; Vienna, Austria. Papers "Student Representation Tasks: A Unique Fluency-Inspiring Activity," R.S. French & E.E. Prather. 237th AAS meeting; online. "CCD Measurements and Analyses of Double Star HJ 2668," J.T. Earwicker, R.S. French, J.P. Bovce, & G.
2018 3. 2012 4. 5. 2000 6. 1997 7. Poste 2021 1. 2.	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos; CA. "[FREE] High-Ouality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," R.S. French, K.A. Lewis, & E.D. Friel. XII International Conference for Physics Students, Vienna University of Technology; Vienna, Austria. Papers "Student Representation Tasks: A Unique Fluency-Inspiring Activity," R.S. French & E.E. Prather. 237th AAS meeting; online. "CCD Measurements and Analyses of Double Star HJ 2668," J.T. Earwicker, R.S. French, J.P. Boyce, & G. Boyce, 237th AAS meeting; online.
2018 3. 2012 4. 5. 2000 6. 1997 7. Poste 2021 1. 2. 2.018	French (designee). 233 rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233 rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French . AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French . Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French . 196 th AAS meeting; Rochester, NY. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," R.S. French , K.A. Lewis, & E.D. Friel. XII International Conference for Physics Students, Vienna University of Technology; Vienna, Austria. Papers "Student Representation Tasks: A Unique Fluency-Inspiring Activity," R.S. French & E.E. Prather. 237 th AAS meeting; online. "CCD Measurements and Analyses of Double Star HJ 2668," J.T. Earwicker, R.S. French , J.P. Boyce, & G. Boyce. 237 th AAS meeting; online.
2018 3. 2012 4. 5. 2000 6. 1997 7. Poste 2021 1. 2. 2018	 French (designee). 233rd AAS meeting; Seattle, WA. "The Astrophysical Fluency Project Part I: Unpacking Your Activities," R.S. French & E. Prather. 233rd AAS meeting; Seattle, WA. "Developing Fluency: A Framework for Generating Effective Representations and Tasks," R.S. French & E. Prather. AAPT National Summer Meeting, Washington, DC. "Introductory GenEd Science Courses, CATS, and the Center for Astronomy Education (CAE)," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos; CA. "[FREE] High-Quality Interactive Resources for Teaching Astronomy," R.S. French. Meeting of the AAPT Southern California Section meeting, California State University, San Marcos; San Marcos; CA. "Prospecting for Precious Metals in Ultra-Metal-Poor Stars," R.S. French. 196th AAS meeting; Rochester, NY. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," R.S. French, K.A. Lewis, & E.D. Friel. XII International Conference for Physics Students, Vienna University of Technology; Vienna, Austria. Papers "Student Representation Tasks: A Unique Fluency-Inspiring Activity," R.S. French & E.E. Prather. 237th AAS meeting; online. "CCD Measurements and Analyses of Double Star HJ 2668," J.T. Earwicker, R.S. French, J.P. Boyce, & G. Boyce. 237th AAS meeting; online. "Uncovering the Unknown Unknowns of Peer Instruction Questions " R S French & E. Prather. Physics

 "The Center for Astronomy Education (CAE) Teaching Excellence Workshops and Regional Teaching Exchanges," R.S. French. AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA.

2011

2012

 "Increasing the Availability of Professional Development Opportunities Through the Center for Astronomy Education (CAE) Regional Teaching Exchanges," M.C. LoPresto, G. Brissenden, A.D. Forestell, R.S. French, J. Lutz, D.L. Martino, W.L. Powell Jr., P.E. Robinson, A.L. Rudolph, & Collaboration of Astronomy Teaching Scholars (CATS). 217th AAS meeting; Seattle, WA.

2010

- 6. "ClassAction: A Computer Database of Interactive Classroom Materials," K. Lee & **R. French**. ASP meeting, Cosmos in the Classroom, University of Colorado, Boulder; Boulder, CO.
- "A Multi-Institution Study on the Effectiveness of ClassAction to Promote Student Understanding in Astro 101," K.M. Lee, R.S. French, D.R. Hands, D.R. Loranz, D.L. Martino, A.L. Rudolph, J. Wysong, T.S. Young, E.E. Prather, & Collaboration of Astronomy Teaching Scholars (CATS). 215th AAS meeting; Washington, DC.

2009

8. "Citizen Science for the International Year of Astronomy," A. Price, C. De Pree, L. Fortson, **R.S. French**, M. Hartman, S. Jacoby, J. Raddick, & R. Stencel. 213th AAS meeting; Long Beach, CA.

2008

9. "Results from the Astronomy Diagnostic Test: 3 Years at MiraCosta College," **R. Sirbaugh French**. 211th AAS meeting; Austin, TX.

2006

- 10. "A Photometric Analysis of Four Active Galaxies," E.N. Voyer, L.M. Hachmeister, K.S. Rumstay, & **R.S. French**. 207th AAS meeting; Washington, DC.
- 11. "The u'g'r'i'z' Southern Hemisphere Standard Star Network," J.A. Smith, S.S. Allam, D.L. Tucker, J.L. Stute, C.T. Rodgers, C. Stoughton, T.C. Beers, **R.S. French**, & P.M. McGehee. 207th AAS meeting; Washington, DC.

2003

12. "Investigating the Width of the Main Sequence in Open Clusters," **R.S. French** & T. von Hippel. 202nd meeting of the AAS; Nashville, TN.

2001

13. "Radial Velocities of Cepheids and RR Lyraes," **R.S. French**, T.G. Barnes, T. Montemayor, & I. Skillen. 198th AAS meeting; Pasadena, CA.

2000

- 14. "Neutron-Capture Elements in Very Metal-Poor Halo Stars," **R.S. French**, C. Sneden, J.J. Cowan, J.E. Lawler, F. Primas, T.C. Beers, & J.W. Truran. 196th AAS meeting; Rochester, NY.
- 15. "Neutron-Capture Elements in Low Metallicity Halo Giants," C. Sneden, **R.S. French**, J.J. Cowan, J.E. Lawler, F. Primas, T.C. Beers, & J.W. Truran. 195th AAS meeting; Atlanta, GA.

1999

 "High Spectral-Resolution Observations of Absorption Lines From Neutral Envelopes of Planetary Nebulae," R.S. French, H.L. Dinerstein, & C. Sneden. 193rd AAS meeting; Austin, TX.

1998

- 17. "WFPC2 Observations of the Small Magellanic Cloud Intermediate-Age Populous Cluster NGC 416," **R.S. French**, K.J. Mighell, & A. Sarajedini. 191st AAS meeting; Washington, DC.
- 18. "WFPC2 Observations of Populous Intermediate-Age Star Clusters in the Small Magellanic Cloud," K.J. Mighell, A. Sarajedini, & **R.S. French**. 191st AAS meeting; Washington, DC.

- "WFPC2 Observations of the Small Magellanic Cloud Intermediate-Age Populous Cluster NGC 416," R.S. French, K.J. Mighell, & A. Sarajedini. 107th Tennessee Academy of Science meeting, Motlow State Community College; Tullahoma, TN.
- 20. "On the Road to Determining the White Dwarf Luminosity Function: A Comparison of Two Photometric Reduction Methods," **R.S. French** & T.D. Oswalt. 189th AAS meeting; Toronto, ON, Canada.

1996

- 21. "On the Road to Determining the White Dwarf Luminosity Function: A Comparison of Two Photometric Reduction Methods," R.S. French & T.D. Oswalt. 106th Tennessee Academy of Science meeting, University of the South; Sewanee, TN.
- 22. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," **R.D. Sirbaugh**, K.A. Lewis, & E.D. Friel. 187th AAS meeting; San Antonio, TX.

1995

23. "A BVRI CCD Photometric Study of Open Clusters IC 361 and NGC 6802," **R.D. Sirbaugh**, K.A. Lewis, & E.D. Friel. 105th Tennessee Academy of Science meeting, joint meeting with the 81st Kentucky Academy of Science meeting, Western Kentucky University; Bowling Green, KY.

Panels and Podcasts

2021

- 1. "New Physics Majors' Q&A with Alumni," Department of Physics & Astronomy, Middle Tennessee State University; Murfreesboro, TN.
- 2. "What Do the Mars Perseverance Rover and the Coronavirus Delta Variant Have In Common?," STEM Center First Friday Discussion Series, MCC; online.
- 3. "Astro 101: Everyone's Universe," 55-Year Mission Las Vegas Star Trek convention, Roddenberry Entertainment & Creation Entertainment; Las Vegas, NV.
- 4. "Hey, What's Going On With μ^- ," STEM Center First Friday Discussion Series, MCC; online.
- 5. "Beautiful Theories, Ugly Facts When Science Gets It Wrong," STEM Center First Friday Discussion Series, MCC; online.
- 6. "Red, Green, Blue Mars: What Life on our Neighbor Might Look Like," STEM Center First Friday Discussion Series, MCC; online.
- 7. "It's Our Classroom, But Whose Culture? Part 2," S.A.F.E. Topics podcast, MiraCosta College; online. https://safetopics.podbean.com/e/it-s-our-class-but-whose-culture-part-2
- 8. "It's Our Classroom, But Whose Culture? Part 1," S.A.F.E. Topics podcast, MiraCosta College; online. https://safetopics.podbean.com/e/its-our-classroom-but-whose-culture
- 9. "Careers in STEM Teaching at Community Colleges," Physical Sciences Student Success Center, UC San Diego; online.
- 10. "Life 'Out There' From Phosphine to Arecibo and Back," STEM Center First Friday Discussion Series, MCC; online.

2020

- 11. "Issues, Principles and Practices: Designing Effective Remote and Hybrid Classes Part 2," Embracing the Future: Astronomy Teaching and Public Engagement, ASP2020: A Virtual Conference; online.
- 12. "Issues, Principles and Practices: Designing Effective Remote and Hybrid Classes Part 1," Embracing the Future: Astronomy Teaching and Public Engagement, ASP2020: A Virtual Conference; online.
- 13. "We All Live In A Metastable Vacuum Universe," STEM Center First Friday Discussion Series, MCC; online.
- 14. "Syllabus, A One Word Conversation with Faculty," S.A.F.E. Topics podcast, MiraCosta College; online. https://safetopics.podbean.com/e/syllabus-a-one-word-conversation-with-faculty

2019

- 15. "The Black Hole and Beyond," STEM Center First Friday Discussion Series, MCC; Oceanside, CA.
- 16. "What's New In Science Update," STEM Center First Friday Discussion Series, MCC; Oceanside, CA.

2018

17. "Four Scientists Walk Into A Bar...," STEM Center First Friday Discussion Series, MCC; Oceanside, CA.

2013

18. "The Trouble With Astronomers...," Are We Censored? Are We the Censors?, Banned Books Week, MCC; Oceanside, CA.

2012

19. "Career Panel: Career Paths," 219th AAS meeting; Austin, TX.

20. "Welcome, International Year of Astronomy!" NASA's official image unveiling event for the International Year of Astronomy, covered by local NBC affiliate, MCC; Oceanside, CA.

2008

- 21. "Best Lectures in Science Courses," Great Ideas For Teaching (GIFTs), MCC; Oceanside, CA.
- 22. "Best Labs in Science Courses," GIFTs, MCC; Oceanside, CA.

2005

23. "Mars: The Future Isn't What It Used To Be," The Mars Society San Diego Chapter, Comic-Con International; San Diego, CA.

Workshops and Seminars

2020

- "AMPlifying Your Majors' Courses: From Unpacking to Problem-Solving," CAE, 235th AAS meeting; Honolulu, HI.
- 2. "AAS Education Committee Forum on Majors Curriculum," CAE, 235th AAS meeting; Honolulu, HI.
- 3. "Improving your Teaching: Applications of Evidence Based Practices for Astronomy Education," IOP Book Launch, 235th AAS meeting; Honolulu, HI.

2019

- 4. "Southwest Regional Teaching Exchange," CAE, MCC; Oceanside, CA.
- 5. "AMPlifying Students' Problem-Solving in Astronomy and Physics Majors' Courses," CAE, 233rd AAS meeting; Seattle, WA.
- 6. "CAE's Tier I Teaching Excellence Workshop for Current and Future Astronomy and Space Science Instructors," CAE, 233rd AAS meeting; Seattle, WA.

2018

- 7. "Effective Techniques for Debriefing," MCC; Oceanside, CA.
- 8. "Southwest Regional Teaching Exchange," CAE, MCC; Oceanside, CA.
- 9. "Teaching Tools Using Multiwavelength Astronomy," CAE, 231st AAS meeting; National Harbor, MD.
- 10. "New Methods for Teaching in the Flipped Classroom," CAE, 231st AAS meeting; National Harbor, MD.

2017

- 11. "CAE's Tier I Teaching Excellence Workshop for Current and Future Astronomy and Space Science Instructors," 2-days, CAE, Syracuse University; Syracuse, NY.
- 12. "Southwest Regional Teaching Exchange," CAE, MCC; Oceanside, CA.
- 13. "POT Online: Show and Tell Third Thursdays," Program for Online Teaching, MCC; Oceanside, CA.
- 14. "New Methods for Teaching in the Flipped Classroom," CAE, 229th AAS meeting; Grapevine, TX.
- 15. "New Methods for Teaching About Exoplanets," CAE, 229th AAS meeting; Grapevine, TX.

2016

- 16. "Changes in the Sky," 5-days, NGSS Early Implementer Initiative Teacher Training, K-12 Alliance at WestEd, Mission Bay High School; San Diego, CA.
- 17. "Southwest Regional Teaching Exchange," CAE, MCC; Oceanside, CA.
- 18. "CAE's Tier I Teaching Excellence Workshop for Current and Future Astronomy and Space Science Instructors," 2-days, CAE, 227th AAS meeting; Kissimmee, FL.

2015

- 19. "CAE's Tier I Teaching Excellence Workshop for Current and Future Astronomy and Space Science Instructors," 2-days, CAE, South Carolina State University; Orangeburg, SC.
- 20. "Southwest Regional Teaching Exchange," CAE, MCC; Oceanside, CA.
- 21. "CAE's Tier I Teaching Excellence Workshop for Current and Future Astronomy and Space Science Instructors," 2-days, CAE, 225th AAS meeting; Seattle, WA.

- 22. "CAE's Tier I Teaching Excellence Workshop for Current and Future Astronomy and Space Science Instructors," 2-days, CAE, 224th AAS meeting; Boston, MA.
- 23. "Southwest Regional Teaching Exchange," CAE, MCC; Oceanside, CA.

- 24. "Think-Pair-Share (Peer Instruction): Low Tech, High Return," part of the "Learner-Centered Teaching Conference," Palomar College Active Learning Leaders professional development conference, Palomar College; San Marcos, CA.
- 25. "CAE's Tier I Teaching Excellence Workshop for Current and Future Astronomy and Space Science Instructors," 2-days, CAE, 223rd AAS meeting; National Harbor, MD.

2013

- 26. "Technology for Pedagogy's Sake," MCC; Oceanside, CA.
- 27. "Reverse-Engineering Your Course," MCC; Oceanside, CA.
- 28. "TPS: Think-Pair-Share (Peer Instruction)," MCC; Oceanside, CA.
- 29. "Day One: Establishing Classroom Culture & Expectations," MCC; Oceanside, CA.
- 30. "CAE's Tier I Teaching Excellence Workshop for Current and Future Astronomy and Space Science Instructors," 2-days, CAE, Central New Mexico Community College; Albuquerque, NM.
- 31. "CAE's Tier I Teaching Excellence Workshop for Current and Future Astronomy and Space Science Instructors," 2-days, CAE, 222nd AAS meeting; Indianapolis, IN.
- 32. "Southwest Regional Teaching Exchange," CAE, MCC; Oceanside, CA.
- 33. "Using Technology for Pedagogy's Sake," part of "Teaching the 21st Century Student," NCHEA, California State University, San Marcos; San Marcos, CA.
- 34. "Improving the College Introductory Astronomy and Space Science General Education Course Through Active Engagement: A Tier I (Introductory) Workshop," 2-days, CAE, 221st AAS meeting; Long Beach, CA.

2012

- 35. "Think-Pair-Share (Peer Instruction)," MCC; Oceanside, CA.
- 36. "Reverse-Engineering Your Course," MCC; Oceanside, CA.
- 37. "CAE/CATS Tier II Special Topics Workshop: Using Technology in the Classroom," CAE, 220th AAS meeting; Anchorage, AK.
- 38. "Improving the College Introductory Astronomy and Space Science General Education Course Through Active Engagement: A Tier I (Introductory) Workshop," 2-days, CAE, 220th AAS meeting; Anchorage, AK.
- 39. "Improving the General Education College-Level Introductory Astronomy and Space Science Courses Through Active Engagement: A Tier I (Introductory) Workshop," 2-days, CAE, Rust College; Holly Springs, MS.
- 40. "Southern California Regional Teaching Exchange," CAE, MCC; Oceanside, CA.
- 41. "ClassAction: A Powerful Tool for Active-Learning Sequences," AAPT Southern California Section meeting, California State University, San Marcos; San Marcos, CA.
- 42. "Cards: Low Tech, High Return," MCC; Oceanside, CA.
- 43. "CAE/CATS Tier II Special Topics Workshop: Using Technology in the Classroom," CAE, 219th AAS meeting; Austin, TX.
- 44. "Improving the College Introductory Astronomy General Education Course Through Active Engagement: A Tier I (Introductory) Workshop," 2-days, CAE, 219th AAS meeting; Austin, TX.

- 45. "Astronomy: The Human Orrery," STEM Camp for grades 9 & 10, MCC; Oceanside, CA.
- 46. "CAE/CATS Tier II Special Topics Workshop: Using Technology in the Classroom," CAE, 218th AAS meeting; Boston, MA.
- 47. "Improving the College Introductory Astronomy Survey Course for Non-Science Majors Through Active Engagement: A Tier I (Introductory) Workshop," 2-days, CAE, 218th AAS meeting; Boston, MA.
- 48. "Southern California Regional Teaching Exchange," CAE, MCC; Oceanside, CA.
- 49. "Improving the College Introductory Astronomy Survey Course for Non-Science Majors Through Active Engagement: A Tier II (Advanced) Technology Special Topics Workshop," CAE, 217th AAS meeting; Seattle, WA.
- 50. "Improving the College Introductory Astronomy Survey Course for Non-Science Majors Through Active Engagement: A Tier I (Introductory) Workshop," 2-days, CAE, 217th AAS meeting; Seattle, WA.
- 2010
 - 51. "Interactive Questioning: Pedagogy and Technology," MCC; Oceanside, CA.

- 52. "Teaching Exchange," MCC; Oceanside, CA.
- 53. "Teaching Squares," MCC; Oceanside, CA.
- 54. "Interactive Questioning and Learning," MCC; Oceanside, CA.
- 55. "Engaging Students with ClassAction," CAE/CATS, ASP meeting, Cosmos in the Classroom, University of Colorado, Boulder; Boulder, CO.
- 56. "Engaging Students with Simulations in the Classroom," CAE/CATS, ASP meeting, Cosmos in the Classroom, University of Colorado, Boulder; Boulder, CO.
- 57. "CAE/CATS Tier II Special Topics Workshop: Using Technology in the Classroom," CAE, 216th AAS meeting; Miami, FL.
- 58. "Improving the College Introductory Astronomy Survey Course for Non-Science Majors Through Active Engagement: A Tier I (Introductory) Workshop," 2-days, CAE, 216th AAS meeting; Miami, FL.
- 59. "Southern California Regional Teaching Exchange," CAE, MCC; Oceanside, CA.
- 60. "ClassAction: A Powerful Tool for Active Learning Sequences," CAE, MCC; Oceanside, CA.
- 61. "Reverse-Engineering Your Course," CAE, MCC; Oceanside, CA.
- 62. "Interactive Questioning and Learning," CAE, MCC; Oceanside, CA.
- 63. "Deconstructing Multiple-Choice Questions," CAE, MCC; Oceanside, CA.
- 64. "Using Technology in the Astro 101 Classroom," CAE, 215th AAS meeting; Washington, DC.
- 65. "Improving the College Introductory Astronomy Survey Course for Non-Science Majors Through Active Engagement: A Tier I (Introductory) Workshop," 2-days, CAE, 215th AAS meeting; Washington, DC.

2009

- 66. "ClassAction: A Powerful Tool for Active Learning Sequences," CAE, California Science Education Conference, California Science Teachers Association; Palm Springs, CA.
- 67. "Engaging Students with Think-Pair-Share and ClassAction," CAE, California Science Education Conference, California Science Teachers Association; Palm Springs, CA.
- 68. "Interactive Lecturing How To Increase Student Intellectual Engagement and Understanding During the Lecture Portion of Your Class: A Tier I Workshop," CAE, ASP meeting; San Francisco, CA.
- 69. "Astronomy: The Greatest Show in the Universe," STEM Camp for grades 9 & 10, MCC; Oceanside, CA.
- 70. "Build An Astronomical Refractor," STEM Camp for grades 9 & 10, MCC; Oceanside, CA.
- 71. "Using Technology & Authentic Investigations in Astro 101: A Tier II (Special Topics) Workshop," 2-days, CAE, Maui Community College; Kahului, Maui, HI.
- 72. "Improving the College Introductory Astronomy Survey Course for Non-Science Majors Through Active Engagement: A Tier I (Introductory) Workshop," 2-day, CAE, 214th AAS meeting; Pasadena, CA.
- 73. "Improving the College Introductory Astronomy Survey Course for Non-Science Majors Through Active Learning: A Tier I (Introductory) Workshop," 2-days, CAE, 213th AAS meeting; Long Beach, CA.

2008

- 74. "Astronomy: The Greatest Show in the Universe," STEM Camp for grades 9 & 10, MCC; Oceanside, CA.
- 75. "Build An Astronomical Refractor," STEM Camp for grades 9 & 10, MCC; Oceanside, CA.
- 76. "Improving the College Introductory Astronomy Survey Course for Non-Science Majors Through Active Learning: A Tier I (Introductory) Workshop," 2-days, CAE, 212th AAS meeting; St. Louis, MO.

2003

77. "Mars, Here We Come!" Expanding Your Horizons, UT; Austin, TX.