

Volume 20 | Number 6 | 2016

Electronic Journal of Science Education

ISSN 1087-3430

Published by

Southwestern University
Georgetown, Texas

Texas Christian University
Fort Worth, Texas

www.ejse.southwestern.edu

Electronic Journal of Science Education

Editor of Regular Issues

Molly Weinburgh, Texas Christian University, United States

Editor of Special Issues

Michael Kamen, Southwestern University, United States

Associate Editors

Karen E. Bledsoe, Western Oregon University, United States

William J.F. Hunter, Illinois State University, United States

Murat Kahveci, Canakkale Onsekiz Mart University, Turkey

Paul Kelter, Northern Illinois University, United States

Nina A. Leonhardt, Suffolk County Community College, United States

David Majerick, Temple University, United States

Colette Murphy, Queen's University Belfast, United Kingdom

Martina Nieswandt, University of Massachusetts, United States

Rose Pringle, University of Florida, United States

Mike U. Smith, Mercer University School of Medicine, United States

Julie Westerlund, Texas State University, United States

BaoHui Zhang, Lingnan University, Hong Kong

Administrative Assistant

Murielle Wright, Texas Christian University, Texas

Editorial Review Board

Emmanuel Edoja Achor, Benue State University, Nigeria

Kenneth Adu-Gyamfi, Mampong Technical College of Education, Ghana

Mohammed Ahmed, Oriental Institute of Science and Technology, India

Hilal Aktamiş, Adnan Menderes University, Turkey

Sulaiman Al-Balushi, Sultan Qaboos University, Oman

Abdulwali H. Aldahmash, King Saud University, Saudi Arabia

Elizabeth Allison, University of South Alabama, United States

Tamer G. Amin, Lebanese American University, Lebanon

Vincent Amodeo, University of Albany, United States

Sumreen Asim, University of North Texas, United States

Emmanuel Folorunso Bamidele, Obafemi Awolowo University, Nigeria

Electronic Journal of Science Education

Lloyd H. Barrow, University of Missouri, United States
Craig Berg, University of Wisconsin-Milwaukee, United States
Ian Binns, University of North Carolina- Charlotte, United States
SueAnn Bottoms, Oregon State University, United States
Sherri L. Brown, University of Louisville, United States
Erica Brownstein, Oklahoma State University, United States
Dan Carpenter, Texas Tech University, United States
Marissa Tamar Cohen, St Francis College, United States
Merryn Cole, University of Kentucky, United States
Michelle Cook, Clemson University, United States
Casey Creggan, Sam Houston State University, United States
Hasan Deniz, University of Nevada, United States
Michael Dias, Kennesaw State University, United States
Vanessa Dodo Seriki, University of Houston-Clear Lake, United States
Mark Enfield, Elon University, United States
Eva Erdosne Toth, West Virginia University, United States
Allen Espinosa, Philippine Normal University, Philippine
Barry Farris, Columbia University, United States
Kelly Feille, University of North Texas, United States
Katherine Fogelberg, UNT Health Science Center, United States
Wendy Frazier, George Mason University, United States
Tolgo Gok, Dokuz Eylul University,
Wilson J. Gonzalez-Espada, Morehead State University, United States
Sumi Hagiwara, Montclair State University, United States
Sarah Anne Haines, Towson University, United States
Marie Hammer, Monash University, Australia
Vincente Handa, West Visayas State University, Philippines
Pamela Esprivalo Harrell, University of North Texas, United States
Susan Hawkins, Indiana University, United States
Toni Ivey, Oklahoma State University, United States
Paul C. Jablon, Lesley University, United States
Kenneth P. King, Roosevelt University, United States
Catherine M. Koehler, Southern Connecticut State University, United States
Ravinder Koul, Pennsylvania State University, United States
Barbara G. Ladewski, Educational Innovations Consulting LLC, United States
Zane Laws, Cisco College, United States
Kimberly H. Lott, Utah State University, United States
Kathy Malone, The Ohio State University, United States
Stephen Marble, Southwestern University, United States
Catherine Martin-Dunlop, Morgan State University, United States

Electronic Journal of Science Education

Madelon McCall, Baylor University, United States
Thomas John McCloughlin, St. Patrick's College, Ireland
Cherie McCollough, Texas A&M University- Corpus Christi, United States
John McCullagh, Stranmillis University College, Belfast
Suzanne Nesmith, Baylor University, United States
Prasart Nuangchalerm, Mahasarakham University, Thailand
George E. O'Brien, Florida International University, United States
Erin Pearce, Texas Christian University, United States
John Pecore, University of West Florida, United States
Deniz Peker, Columbus State University, United States
Dave Pinkerton, Western Colorado State University, United States
Kate Popejoy, University of North Carolina- Charlotte, United States
Sharon Price Schleigh, East Carolina University, United States
Soleil Roper, Texas Tech University, United States
Melody Russell, Auburn University, United States
Emine Sahin, Indiana University, United States
Yavuz Saka, Zonguldak Karaelmas University, Turkey
Dennis Showers, State University of New York – Geneseo, United States
Cindi Smith-Walters, Middle Tennessee State University, United States
Jose Soto-Sonera, Universidad del Este, Puerto Rico
Karthigeyan Subramaniam, University of North Texas, United States
Michael Svec, Furman University, United States
M. O. Thirunarayanan, Florida International University, United States
Julie Thomas, Oklahoma State University, United States
Irina Verenikina, University of Wollongong, Australia
Bruce Waldrip, Monash University, Australia
Anita Welch, Emirates College for Advanced Education, United Arab Emirates
Yalcin Yalaki, Hacettepe University, Turkey
Ibrahim Yeter, Texas Tech, United States