## Assessment **Assessment Team Leads: Supporting Staff:** David Steer (SP) Kristin O'Connell (SERC, Carleton College) Ellen Iverson (SP) Tonya Kjerland (SERC, Carleton College) Stuart Birnbaum (University of Texas, San Antonio) **Graduate student support: Assessment Team Members:** Kaitlin Harrison (Central Washington University) Leilani Arthurs (University of Nebraska- Lincoln) **Undergraduate student support:** Aida Awad (Maine East High School) Charlie Linneman (Carleton College) Barbara Bekken (Virginia Tech) Arafat Akinlabi (Carleton College) Susan Buhr Sullivan (CIRES, University of Colorado) Andre Miller (Carleton College) Joshua Caulkins (University of Rhode Island) Izaak Sunleaf (Carleton College) Emily Geraghty Ward (Rocky Mountain College) Hannah Buchl (Carleton College) Megan Plenge (Trinity University) Prasidda Khadka (Carleton College) Mary Savina (Carleton College) Claudia Celine Schachter (Carleton College) Karen Viskupic (Boise State University) Ayumi Tachida (Carleton College) **Geoscience Literacy Exam Testers** Diane Doser (PI) Elizabeth Nagy-Shadman (SP) David Steer (SP) Jacquelyn Hams (Los Angeles Valley College) Christine Haney (University of Nebraska-Lincoln) Sarah Lawson (Randolph College) Jannelle Sikorski (Miami University-Oxford) Paul Vincent (Valdosta State University)

**Materials Development:** 

28 Module or Course Teams Materials taught in over 60 courses to over 2,500 students

**Materials Development Team Leads:** 

Tim Bralower (PI) Anne Egger (PI) David Gosselin (SP) David McConnell (PI) John Taber (LT)

**Authors:** Richard Alley (Pennsylvania State University) Michael Arthur (Pennsylvania State University) Kathryn Baldwin (Eastern Washington University) Ed Barbanell (University of Utah) Pinar Batur (Vassar College) Patrick Belmont (Utah State University) Callan Bentley (Northern Virginia Community College) Pete Berquist (Thomas Nelson Community College) Juk Bhattacharyya (University of Wisconsin-Whitewater) Pamela Bingham (Multiple Institutions) Mark Blumler (Binghamton University) Rebecca Boger (CUNY Brooklyn College) Louisa Bradtmiller (Macalester College) Brittany Brand (Boise State University) Joy Branlund (Southwestern Illinois College) Steven Burian (University of Utah) Randolph Chambers (College of William and Mary) Martha Conklin (University of California-Merced) Sean Cornell (Shippensburg University of Pennsylvania) Maurice Crawford (University of Maryland-Eastern Shore) Benjamin Cuker (Hampton University) Kate Darby (Western Washington University Nicole Davi (William Paterson University of New Jersey) Sue DeBari (Western Washington University) Jennifer Dechaine (Central Washington University) Ashlee Dere (University of Nebraska at Omaha) Lisa Doner (Plymouth State University) Sam Donovan (University of Pittsburgh) Allison Dunn (Worcester State University) James Ebert (SUNY College at Oneonta) Jean Ellis (Georgia Southern University) Cynthia Fadem (Earlham College) Maureen Feineman (Pennsylvania State University) Sarah Fortner (Wittenberg University) Josh Galster (Montclair State University) Ioannis Georgiou (University of New Orleans) Curt Gervich (SUNY College at Plattsburgh) Lisa Gilbert (Williams College) Susan Gill (Stroud Water Research Center) Laurel Goodell (Princeton University) Pamela Gore (Georgia Perimeter College) Kyle Gray (University of Northern Iowa) Deborah Gross (Carleton College) Jennifer Hanselman (Westfield State University) Rodger Hauge (Eastern Washington University) Ruth Hoff (Wittenberg University) Adam Hoffman (University of Dubuque) Camille Holmgren (SUNY Buffalo State) Meghann Jarchow (University of South Dakota) Manoj Jha (North Carolina A & T State University) Leah Joseph (Ursinus College) Heather Karsten (Pennsylvania State University) Michelle Kinzel (San Diego Mesa College) David Kobilka (Central Lakes College-Brainerd) Katrina Korfmacher (University of Rochester) Karl Kreutz (University of Maine) Mark Kulp (University of New Orleans)

**Materials Testers Leads** Elizabeth Nagy-Shadman (SP) David Steer (SP) Ellen Iverson (SP)

Diane Doser (PI)

**Materials Testers** Martha House (Pasadena City College) Heather Kokorowski (Mt. San Antonio College) Kristen Farley (Pasadena City College) Hilary Lackey (Mt. San Antonio College) David Mrofka (Mt. San Antonio College)

Eric Leibensperger (SUNY College at Plattsburgh)

Scott Linneman (Western Washington University) Linda Loubert (Morgan State University) Russanne Low (University of Nebraska at Lincoln) Laura Lukes (George Mason University) Bob Mackay (Clark College) Diane Maygarden (University of New Orleans) Pamela McMullin-Messier (Central Washington University) Kirsten Menking (Vassar College) Julie Monet (California State University-Chico) Lorraine Motola (Metropolitan College of New York) Martha Murphy (Santa Rosa Junior College) Rick Oches (Bentley University) David Padgett (Tennessee State University) Sandra Penny (Bard College) Adriana Perez (University of Texas at El Paso, The) Michael Phillips (Illinois Valley Community College) Lisa Phillips (Illinois State University) Terri Plake (Northwest Indian College) Amy Potter (Armstrong Atlantic State University) Joan Ramage (Lehigh University) Phil Resor (Wesleyan University) Gigi Richard (Colorado Mesa University) Martha Richmond (Suffolk University) John Ritter (Wittenberg University) Tiffany Rivera (Westminster College (UT)) Angel Rodriguez (Broward Community College) Demian Saffer (Pennsylvania State University) Hannah Scherer (Virginia Polytechnic Institute & State Univ) Melissa Schlegel (College of Western Idaho) Jill Schneiderman (Vassar College) Astrid Schnetzer (North Carolina State University) Richard D. Schulterbrandt Gragg III (Florida Agricultural and Mechanical University) Peter Selkin (University of Washington-Tacoma Campus) Gautam Sethi (Bard College) Cindy Shellito (University of Northern Colorado) Marshall Shepherd (University of Georgia) Chris Sinton (Ithaca College) Jennifer Sliko (Pennsylvania State University-Harrisburg) Robyn Smyth (Bard College) Patricia Stapleton (Worcester Polytechnic Institute) Meg Stewart (Fulbright) Rachel Teasdale (California State University-Chico) Rebecca Teed (Wright State University) Jeff Thomas (Central Connecticut State University) Cara Thompson (Santa Monica College) Robert Turner (University of Washington-Bothell Campus) Gary Varrella (Washington State University-Spokane) Joshua Villlalobos (El Paso Community College) Caryl Waggett (Allegheny College) Becca Walker (Mt. San Antonio College) Jim Washburne (The University of Arizona) Tim White (Pennsylvania State University)

Graduate student support: LeeAnna Chapman (North Carolina State University) Kelsey Kroggel (University of Akron) Michael Pelch (North Carolina State University)

**Supporting Staff:** 

Donele Wilkins (Wilkins)

Monica Bruckner (SERC, Carleton College) MJ Davenport (SERC, Carleton College) Krista Herbstrith (SERC, Carleton College) Molly Kent (SERC, Carleton College) Krista Larsen (SERC, Carleton College) Kristin O'Connell (SERC, Carleton College)

Laura Wright (Western Carolina University)

Adam Wymore (University of New Hampshire)

Nekya Jenise Young (Texas Southern University)

Brent Yarnal (Pennsylvania State Univ-Penn St. Erie)

**Implementation Programs** 

**Project Leads:** Carol Baldassari (PERG, Endicott College) Cailin Huyck Orr (SERC, Carleton College) Cathy Manduca (PI) David Steer (SP)

**Implementation Program Team Leads:** Mark Abolins (Tennessee State University) Julie Bartley (Gustavus Adolphus College) Tim Bralower, PI (Pennsylvania State University) Diane Doser, PI (University of Texas at El Paso) Sue Ebanks (Savanna State University) Anne Egger, PI (Central Washington University) Sarah Fortner (Wittenberg University) Ed Geary (Western Washington University)

William Hoyt (University of Northern Colorado)

**Team Members:** Jeremy Aber (Middle Tennessee State University) Ben Alsip (University of Illinois at Chicago) Lee Altier (California State University- Chico) Steven Anderson (University of Northern Colorado) Anisah Bagasra (Clafin University) Kathy Baldwin (Washington State University) Megan Bang (University of Washington) Brenda Barnes (University of Texas at El Paso) Celso Batalha (Evergreen Valley College) Kaneice Bembry (Henry County School System, GA) Max Berkelhammer (University of Illinois at Chicago) William Blewett (Shippensburg University) Patricia Boda (Middle Tennessee State University) Amber Burgett (Wittenberg University) Deborah Caskey (El Paso Community College) Anita Chaudhry (California State University- Chico) Jacob Clark Blickenstaff (Wshington State LASER) Philip Clawson (California State University- Chico) Keith Clay (Green River Community College) Philip Clements (California State University- Chico) Sean Cornell (Shippensburg University) Ann Cosgrove (University of Illinois at Chicago) Stephanie Couch (Cal State University East Bay, Hayward) Timothy Craker (Mercer University) Sheryl Cunningham (Wittenberg University) Sue DeBari (Western Washington University) Andrew Dombard (University of Illinois at Chicago) James Dontje (Gustavus Adolphus College) Cynthia Duncan Joseph (Clafin University) Ellen Ebert (Office of the Superintendent of Public Instruction) Dave Finster (Wittenberg University) Sarah Fortner (Wittenberg University) Benjamin Galluzzo (Shippensburg University) Elizabeth George (Wittenberg University) Bruce Grelle (California State University- Chico) Laura Guertin (Pennsylvania State University)) Don Hankins (California State University- Chico) Dan Hanley (Western Washington University) Colleen Hatfield (California State University- Chico) Tim Hawkins (Shippensburg University) Deborah Herrington (Grand Valley State University) Ruth Hoff (Wittenberg University) Rodney Hudson (Clafin University) Roxi Hulet (Skagit Valley College) Judith Iriarte-Gross (Middle Tennessee State University)

Claire Jantz (Shippensburg University)

Lixin Jin (University of Texas at El Paso)

Cindy Johnson (Gustavus Adolphus College)

Fabien Kenig (University of Illinois at Chicago)

Michele Kooman (Gustavus Adolphus College)

Amber Kumpf (Muskegon Community College)

Sara Julin (Whatcom Community College)

Mihail-Radu Kantor (Clafin University)

Tony Johnston (Middle Tennessee State University)

Elaine Kampmueller (Grand Rapids Community College)

**Supporting Staff:** John McDaris (SERC, Carleton College)

Meghann Jarchow (University of South Dakota) Camelia-Maria Kantor (Clafin University) Steve Mattox (Grand Valley State University) Tenea Nelson (Stanford University) Angelina Sanderson Bellamy (Stanford University) Stefany Sit (University of Illinois at Chicago) Colleen Stapleton (Mercer University) Mark Sweeney (University of South Dakota) Rachel Teasdale (California State University- Chico)

Program Management

and Coordination

**Implementation** 

Programs

Program Evaluation

Professional

Development

**Program Evaluation** 

**External Evaluation Team** 

**Evaluation Consultant** 

**Evaluation Staff** 

Kim Kastens (Education Development Center, Inc.)

Jacqueline DeLisi (Education Development Center, Inc)

Carol Baldassari (PERG, Endicott College)

Frances Lorenz (University of Minnesota)

Sabra Lee (PERG, Endicott College)

Assessment

Materials

Development

Martha Kurtz (Central Washington University) Jeff La Frenierre (Gustavus Adolphus College) Lisa Langenbach (Middle Tennessee State University) Richard Langford (University of Texas at El Paso) Bora Lee (Clafin University) Scott Linneman (Western Washington University) Pablo Llerandi-Roman (Grand Valley State University) Sara Loiacono (University of Illinois at Chicago) Lin Ma (University of Texas at El Paso) Mike Massey (Cal State University East Bay, Hayward) Tari Mattox (Grand Rapids Community College) Tari Mattox (Grand Rapids Community College) Gloria McCutcheon (Clafin University) Ewen McLean (Clafin University) Michelle McWhorter (Wittenberg University) Jane Metty (Mercer University) Ellen Metzer (San Jose State University) D'Arcy Meyer-Dombard (University of Illinois at Chicago) David Miller (Clark State Community College) Jolvan Morris (Savannah State University) Kathryn Nagy (University of Illinois at Chicago) Danny Nguyen (Mission College) Gus Nollmeyer (Eastern Washington University) Andrew Nyblade (Pennsylvania State University)) Keith Oliver (Grand Valley State University) Adriana Perez (University of Texas at El Paso) Tran Phung (Whatcom Community College) Roy Plotnick (University of Illinois at Chicago) George Pomeroy (Shippensburg University) Carol Pride (Savannah State University) Anthony Rizzuti (Clafin University) Roxane Ronca (Western Washington University) Stephen Rybczynski (Grand Valley State University) Heather Sahli (Shippensburg University) Cindy Shellito (University of Northern Colorado) Jessica Shillings-Barrera (Mission College) Andy Shouse (University of Washington) Angela Slater (Grand Valley State University) Brad Smith (Skagit Valley College) Ken Songco (Mission College) Carol Stein (University of Illinois at Chicago) Richard Stewart (Shippensburg University) Janine Stone (California State University- Chico) Byron Straw (University of Northern Colorado) Nathan Thomas (Shippensburg University) Laura Triplett (Gustavus Adolphus College) Anna Versluis (Gustavus Adolphus College) Joshua Villalobos (El Paso Community College) Stamatis Vokos (Seattle Pacific University) Sabrina Walthall (Mercer University) Gilda Wheeler (Office of the Superintendent of Public Instruction) Tim Wilkerson (Wittenberg University) Eric Willard (California State University- Chico) Jeremiah Williams (Wittenberg University) Kay Williams (Shippensburg University)

**Program Management and Coordination** 

Project Leadership Team:

Cathy Manduca, PI (SERC, Carleton College) David Blockstein, SP (NCSE) Tim Bralower, PI (Pennsylvania State University) Diane Doser, PI (University of Texas-El Paso) Anne Egger, PI (Central Washington University) Sean Fox, SP (SERC, Carleton College) David Gosselin, SP (University of Nebraska-Lincoln) Ellen Iverson, SP (SERC, Carleton College) David McConnell, PI (North Carolina State University) Elizabeth Nagy-Shadman, SP (Pasadena City College) David Steer, SP (University of Akron) John Taber, LT (IRIS)

**Special Projects:** 

Kevin Doyle (NECEC Institute)

**Supporting Staff:** 

Charlotte Betsinger (SERC, Carleton College) Monica Bruckner (SERC, Carleton College) MJ Davenport (SERC, Carleton College) John McDaris (SERC, Carleton College) Krista Herbstrith (SERC, Carleton College) David Huyck (SERC, Carleton College) Molly Kent (SERC, Carleton College) Karin Kirk (SERC, Carleton College) Tonya Kjerland (SERC, Carleton College) Matt Lauer (SERC, Carleton College) Krista Larsen (SERC, Carleton College) Carol Ormand (SERC, Carleton College) Kristin O'Connell (SERC, Carleton College) Cailin Huyck Orr (SERC, Carleton College) Erica Zweifel (SERC, Carleton College)

**Advisory Board:** 

David Asai (Director of Undergraduate Science Education, HHMI) Sarah Bednarz (Associate Dean for Academic Affairs and Professor of Geography, Texas A&M University)

Teresa Bowers (President, Gradient Environmental Consulting Firm) Michael J. Carroll (Senior Staff Geologist, Hunt Oil Company) Geoff Feiss (President, GSA Foundation; Provost and Professor

Grace Goldberg (McClintock Lab, UC Santa Barbara) Art Goldstein (Dean, Bartlett College of Science and Mathematics

Emeritus, College of William and Mary)

at Bridgewater State University) Jack Hehn (CEO, JH Consult; former Director of Education, American Institute of Physics)

Pat Hutchings (Consulting Scholar, The Carnegie Foundation; Senior Scholar, National Institute for Learning Outcomes Assessment;

Scholar-in-Residence, Gonzaga University) Bob Krantz (Principal Structural Geologist, ConocoPhillips) Stephanie Pfirman (Professor and Chair, Department of

Environmental Science at Barnard College) Judith Ramaley (President Emerita, Winona State University) Joaquin Ruiz (Dean of the College of Science and Professor of

Geochemistry, University of Arizona) Jim Swartz (Interim Associate Vice President and Professor of

Chemistry, Grinnell College) Lisa White (Director of Education and Outreach, UC Museum of

Paleontology)

Quinton Williams (Interim Provost and Vice President for

Academic Affairs, Jackson State University) Mary Lou Zoback (Consulting Professor, Stanford University)

**Professional Development** 

20 Workshops, 10 webinars 687 Participants (InTeGrate and Partnership workshops)

**Workshop Leaders:** Thalia Anagnos (San Jose State University) Chris Atchison (Georgia State University) Leonard Berry (Florida Center for Environmental Studies) Allison Beauregard (NW Florida State College) Solomon Billign (NC A&T State University) David Blockstein (SP)

Michael Blum (Tulane University) Tim Bralower (PI) Steven Burian (University of Utah)

Devin Castendyk (State University of New York) Tendai Chitewere (San Fransisco State University) Felicia Davis (Building Green Campuses) Dave Dempsey (San Francisco State University) Petra Dekens (San Francisco State University)

Diane Doser (PI)

Laurie Duncan (University of Texas at Austin) Anne Egger (PI)

Monica Teets Farris (University of New Orleans) John Geissman (University of Texas, Dallas) Lisa Gilbert (Williams-Mystic) David Gosselin (SP) Steve Graham (Stanford)

Sara Harris (University of British Columbia) Jan Hodder (University of Oregon) Christopher Keane (AGI)

Sue Kieffer (University of Illinois, Urbana-Champaign) Kaatje Kraft (Whatcom Community College) Jean MacGregor (The Evergreen State College) Cathy Manduca (PI)

Fred Marton (Bergen Community College) Pamela Matson (Stanford) Mantha Mehallis (Florida Atlantic University) David Mogk (Montana State University)

Richard Nevle (Stanford) Rick Oches (Bently University) Linda Reinen (Pomona College)

Dallas Rhodes (Georgia Southern University) Paul Santi (Colorado School of Mines) David Schejbal (University of Wisconsin-Extension)

Jill Schneiderman (Vassar College) Steve Semken (Arizona State University) Kristen St. John (James Madison University) Kathy Surpless (Trinity University)

John Taber (LT) Jonathan Tomkin (University of Illinois) Rachel Teasdale (California State University, Chico)

Al Trujillo (Palomar College) Jim Tyburczy (Arizona State University) Daniel Vallero (Duke University)

Joshua Villalobos (El Paso Community College) Katryn Wiese (City College of San Francisco) Carolyn Wilson (AGI)

Karl Wirth (Macalester College)

Michael Wysession (Washington University in St. Louis)

## Webinar Leaders:

David Steer (PI) Anne Egger (PI) Kaatje Kraft (Whatcom Community College) Sean Fox (SP) Hannah Scherer (Virginia Tech) Judith Ramaley (Portland State Univeristy) Elizabeth Nagy-Shadman (Pasadena City College)

Joshua Caulkins (University of Rhode Island)

## **Supporting Staff:**

Monica Bruckner (SERC, Carleton College) John McDaris (SERC, Carleton College) Krista Herbstrith (SERC, Carleton College) Molly Kent (SERC, Carleton College) Karin Kirk (SERC, Carleton College) Carol Ormand (SERC, Carleton College) Kristin O'Connell (SERC, Carleton College)