

# Joseph J. Kerski

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## Career Goal

I seek to use my skills in geography and Geographic Information Sciences (GISc) to expand the use of spatial thinking in all sectors of society by fostering educational partnerships, conducting educational research, writing and editing texts and research articles, teaching face to face and online hands-on courses, developing curricula, supporting educators, and training teachers, students, governmental, nonprofit, and business users at all levels.



## Education

**Doctor of Philosophy: Geography**, University of Colorado, 2000.

*Dissertation Title: The Implementation and Effectiveness of Geographic Information System Technology and Methods in Secondary Education.*

*Emphases: Geography Education, GIS, Population Geography. GPA=4.0*

*Coursework Included: Geographic Teaching Materials, Research in Geographic Education, Disciplined Inquiry, History and Nature of Geography, Population Geography, Seminar in Geographic Information Systems, Internet in K-12 Education, Mathematical Demography, Web authoring independent study for Colorado Geographic Alliance, Quantitative Methods in Geography.*

**Master of Arts: Geography**, University of Kansas, 1993.

*Thesis title: The Impact of the Bruce R. Watkins Roadway Project on Neighborhoods in Kansas City, Missouri. Emphases: Geographic Information Systems, Population Geography. GPA=4.0. Coursework Included: GIS, Research Methods, Quantitative Methods, Historical Geography.*

**Bachelor of Arts, with Distinction: Geography**, University of Colorado, 1984.

*Emphases: Cartography, Computer Cartography. GPA=3.8. Coursework Included: Physical, cultural, regional, and historical geography, cartography, computer cartography, map use, Macro and microeconomics, environmental design, accounting, Spanish.*

### Ph.D. Students Supervised

- [1] Jessie Hong, University of Colorado, *GIS in Education*, 2009-present.
- [2] Jeff Crews, University of Montana, *Impacts of a Teacher Geospatial Techn Professional Development Project on Student Spatial Literacy Skills and Interest Science and Technology in Grades 5 - 12 Classrooms Across Montana*. 2006-2008
- [3] Shannon White, North Carolina State University, *GIS and Instructional Technology Diffusion: K-12 Student and Educator Conceptualizations*. 2004-2005

### Additional Coursework and Training:

*Education and Human Relations: Training Subject Matter Experts, Negotiation Skills. GIS: Idrisi, ArcView, ArcInfo, ArcGIS, Maptitude, Geomedia, MapInfo, Image Analysis, Spatial Analyst, 3D Analyst, C Language, GRID, AML, Avenue, ArcGIS Server. Other: Web authoring, Physical Geology, Spanish, MSOffice, Dbase, Photoshop, Unix*

## Work Experience



*Education Manager  
Environmental Systems  
Research Institute*

*2006-Present*

(1) **Thought Leadership:** Innovate and share leading-edge thought and ideas to foster and support GIS in teaching and learning at all levels and forms of education throughout the world. (2) **Curriculum Development:** Create educational materials that use online and desktop GIS technologies and methods for use in education and in other market sectors; (3) **Partnerships:** Foster educational partnerships among government, industry, professional societies, nonprofit

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|  |  | <p>organizations, academia, K-12 education; (4) <b>Scholarship:</b> Write and edit textbooks, articles, book reviews, flyers, posters to support and promote GIS education; (5) <b>Teaching:</b> Create curricular materials, develop and conduct numerous workshops and courses annually on digital and analog geospatial applications, products, and services to diverse audiences; (6) <b>Research:</b> Conduct research on teaching and learning in geography and using geotechnologies; (7) <b>Communications:</b> Write articles, create flyers, operate ESRI information exhibits at conferences.</p>   |
|  | <p><i>Geographer and Cartographer<br/>US Geological Survey</i></p> <p>1989-2006</p><br><p><i>Supervisory Geographer<br/>US Bureau of the Census</i></p> <p>1985-1989</p>   | <p>Foster educational partnerships among government, industry, professional societies, nonprofit organizations, academia, K-12 education; Write and edit textbooks, articles, book reviews, flyers, posters to promote science and geography and geotechnology education; Create curricular materials, develop and conduct 40 workshops and courses annually on digital and analog geospatial applications, products, and services to a diversity of audiences; Conduct research on teaching and learning in geography and using geotechnologies; (5) Maintain education.usgs.gov and other web resources; create educational CDs, write press releases and articles, operate USGS information exhibits at 20 conferences annually; (6) Create applications, databases, and maps to support the National Spatial Data Infrastructure for scientific projects using technical standards and computer procedures; conduct courses in GIS, spatial analysis, using geospatial data, and developing web resources.</p> <p>Conducted geography program training for wide variety of audiences, including planners and researchers; trained and supervised 120 staffpersons in computer mapping and geocoding; coordinated geography and statistical area programs with state, local and tribal governments and other data users; developed computer databases to control TIGER map production and geographic programs; conducted research and development in digital cartography.</p> |
| <p><b>Teaching Experience</b></p><br> | <p><i>Adjunct Instructor<br/>University of Denver<br/>2001-present</i></p><br><p><i>Online Instructor<br/>Eastern Michigan Univ<br/>Maui Economic Dev<br/>2005-present</i></p><br><p><i>Instructor<br/>Denver Public Schools<br/>JeffCo Public Schools<br/>2003-2005</i></p><br><p><i>Instructor<br/>Sinte Gleska University<br/>Rosebud, South Dakota<br/>2002-present</i></p><br><p><i>Guest Instructor<br/>University of TX-El Paso<br/>2001-2002</i></p><br><p><i>Guest Instructor<br/>University of Montana</i></p> | <p>Teach GIS theory and applications and public domain data courses through the University of Denver's GIS program. Create and implement all exercises, exams, and curriculum.</p> <p>Co-create educational GIS certificate program content; co-create all course materials and activities; teach online courses and workshops.</p> <p>Advise Emily Griffith Opportunity School on new GIS program; create all course materials; teach first course in program; serve as Spanish Instructor.</p> <p>Create and instruct the first online GIS course at the Rosebud Sioux's Sinte Gleska University. Advise university staff on design of program; teach hands-on workshops, foster partnerships between the tribe, the university, the communities, the schools, and the USGS.</p> <p>Serve as guest instructor for several GIS courses to build an international interdisciplinary GIS community in E-911 services, news media, regional councils, public works, wastewater treatment, and in other disciplines.</p> <p>Serve as guest instructor for University of Montana's online</p>  |

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| 2002-2005  | GIS course for educators. Answered technical and curriculum integration questions and worked with EOS staff.   |
| Adjunct Instructor<br>Red Rocks College<br>1995-2001                 | Created and maintained first GIS course at Red Rocks Community College; wrote successful grant proposal for GIS program strategic plan.  |
| Visiting Scientist<br>Program<br>Metro State College<br>1993-present | Teach approximately 285 (thus far) hands-on classes and institutes at primary, secondary, and college level, on physical and cultural geography, GIS, remote sensing, cartography, and natural hazards, throughout Colorado. |
| Adjunct Instructor<br>Metropolitan State<br>College<br>1994-1995     | Created GIS curriculum/assessments; taught Advanced GIS and ArcInfo courses. Participated in campus-wide GIS implementation team.  |
| Geographer, USGS<br>1989-2006  | Teach 40 workshops annually for government, news media, Congressional, K-12, professors, the research community, general public, and other audiences on the use and application of spatial data, technology, and methods.    |

**Books and  
Book Chapters**



Baker, Thomas R., and Kerski, Joseph J. *In Press. Lone Trailblazers: GIS In K-12 Science Education. In GIS In Science Inquiry*, Makinster, J (Ed.), Springer.

Kerski, Joseph J., and Jill Clark. *In Progress. Solving Problems with GIS and Public Domain Data*. Redlands, CA: ESRI Press.

Gadsden, David, Taylor, Anne, and Kerski, Joseph J. *In Progress. Tribal GIS Tutorial*. Redlands, CA: ESRI Press.

Lee-Johnson-Gould-Dailey-Fitzpatrick-Masangcay, and Kerski, Joseph J. *In Progress. Mapping Education*. Redlands, CA: ESRI Press.

Kerski, Joseph J. *In Press. Mapping for Understanding Community, Region, and the World: Using GIS in Indigenous Education. In Cartography in Indian Affairs*, Dan Cole, Smithsonian Institution (Ed.).

Kerski, Joseph J. *In Press. Spatial Thinking to Understand Europe: The Global GIS Project. In Using GIS in European Geography Education*, Karl Donert and Przemyslaw Charzynski (Eds.), ESRI Press.

Kerski, Joseph J. 2008. Comparing sea level rise in cities. Teaching boxes in Stan Brunn, Don Ziegler, and Maureen Hays-Mitchell, eds. *Cities of the World*. 4th Edition. Rowman & Littlefield Publishers, Inc.

Kerski, Joseph J. 2008. The International Education Community. Challenges and Benefits to Teaching with Web-Based GIS. Two chapters in *Digital Geography*. Information Age Publishing, pp. 61-76 and pp. 119-134.

Kerski, Joseph J. 2007. GIS in Education. In *Handbook of GIS*. John Wilson and Stewart Fotheringham, eds. Blackwell Publishers. ISBN 9781405107952

Lewis, Gary B., and Christine V. McLelland. *Earthcaching—An Educator's Guide*. Boulder, CO: Geological Society of America. ISBN: 0-8137-7617-1. Co-author of this guide and in training educators in earthcaching.

Kerski, Joseph J. 2007. Mapping for science. Chapter 2 in *California Science*. Textbook. Glencoe-McGraw Hill.

Bryan, Dale-Marie, Cecilia Minden-Cupp, and Joseph Kerski. 2006. *The Colorado River*. New York: Scholastic Library Publishing. ISBN 0516250337.

- Labella, Susan, Cecilia Minden-Cupp, and Joseph Kerski. 2006. *West Virginia*. New York: Scholastic Library Publishing. ISBN 0516249940.
- Kerski, Joseph and Simon Ross. 2005. *Essentials of the Environment*. United Kingdom: Hodder Educational Media and Oxford University Press. ISBN 0340816325.
- Coulter, Bob and Joseph Kerski. 2005. Using GIS to transform the mathematical landscape. Chapter 22 in *Technology-Supported Mathematical Learning Environments: 67<sup>th</sup> Yearbook of the National Council of Teachers of Mathematics*. Reston, VA: Nat'l Council of the Teachers of Mathematics. ISBN 0-87353-569-3.
- Kerski, Joseph J. 2004. GIS for Citizenship Education, in *Geography and Citizenship Education: Research Perspectives*. Edited by A. Kent and A. Powell. Published for the International Geographical Union Committee on Geographic Education by University of London Institute of Education. ISBN 0-9539850-4-0, pp. 129-138.
- Kerski, Joseph J. 2003. Foreword. *Making Community Connections*. Redlands, California: ESRI Press.
- Malone, Lyn, Christine L. Voigt, Anita M. Palmer. 2003. *Community Geography: GIS In Action*. Redlands, California: ESRI Press. Served as technical editor.
- Malone, Lyn, Christine L. Voigt, Anita M. Palmer. 2002. *Mapping Our World: GIS Lessons for Educators*. Redlands, California: ESRI Press. Served as technical editor.

## Web 2.0

- Kerski, Joseph J. 2002-present. Geography Education Column: *Isn't That Spatial*. Appears 6 times each year, *Perspective*, National Council for Geographic Education.
- Kerski, Joseph J. 2007-present. Blog: GIS Education Community. Weekly blog on <http://edcommunity.esri.com> on pedagogical issues, technological tools, and other topics of interest to the geospatial education community.

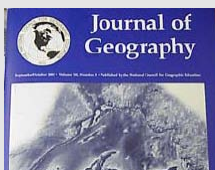
## Media



Weekly posts to Twitter, ESRI EdCommunity Facebook, YouTube, National Geographic.

- 2009-2010. Map Projections, GIS, geography education. Videos for ESRI and NCGE.
- 2007. Exploring Asia. Video for National Geographic Society. Part of ESRI development team.
- 2006. *Geography for Students*. A featured interview subject in this series of DVDs produced by Schlessinger Media. Received NCGE media award, 2009.
- *Ten Cool Things About the USGS*. Served on planning team to create this video, produced by SceneThree, US Department of the Interior.
- Conducted broadcast for National Public Radio's *Weekend America* and also for Mesquite Independent School District's KEOM Radio, Texas. Featured in *Backpacker* magazine about GPS and the outdoors, February 2007. Appeared in several newspaper articles about geography and science.

## Articles



- Baker, Thomas R., Anita M. Palmer, and Joseph Kerski. *In Press*. A national survey to examine teacher professional development and implementation of desktop GIS. *Journal of Geography*.
- Bennimas, Aicha, Solis, Patricia, and Kerski, Joseph J. *In Progress*. Evaluating a My Community Our Earth GIS institute. *IRGEE Journal*.

- Kerski, Joseph J. 2008. The role of GIS in digital earth education. *International Journal of the Digital Earth* 1(4): 326-346.
- Schultz, Richard B., Joseph Kerski, and Todd Patterson. 2008. The use of virtual globes as a spatial teaching tool with suggestions for metadata standards. *Journal of Geography* 107(1): 27-34.
- Kerski, Joseph J. 2007. What's really important in interpreting for climate change. *Legacy*. Journal of the National Association for Interpretation. May/June, pp. 34-37.
- Kerski, Joseph J. 2006. Earth Visions: GIS in Indian Country. *Winds of Change*. American Indian Science and Engineering Society, 21(3). Summer.
- Kerski, Joseph J. 2006. Mapping for understanding our changing world. *The Earth Scientist*. National Earth Science Teachers Association (22)1: 6-10.
- Kerski, Joseph J., Sophia Linn, and Rick Gindele. 2005. Mapping standardised test scores with other variables using GIS. *International Research in Geographic and Environmental Education* (14)3: 231-236.
- Linn, Sophia, Joseph Kerski, and Sarah Wither. 2005. Development of Evaluation Tools for GIS: How Does GIS Affect Student Learning? *International Research in Geographic and Environmental Education* (14)3: 217-224.
- Kerski, Joseph J. 2005. Mapping for understanding. *Access Learning: Cable's Guide To Education Resources*. Washington, DC: Cable in the Classroom (15)9, pp. 10-12.
- Kerski, Joseph J., Roger Palmer, and Anita Palmer. 2005. Jungle classroom—Geotechnology boosts education in Costa Rica's lowland rainforest. *GeoWorld* (18)7. July, pp. 42-44.
- Fox-Gliessman, Debra, and Joseph J. Kerski. 2005. Technology and the study of wildfire: Middle school students study the impacts of wildfire. *Meridian—A Middle School Technology Journal* (8). Winter.
- Kerski, Joseph J. 2004. The Global GIS project: Spatial analysis for the world. *Interaction* 32(3). Victoria, Australia: Geography Teachers Association of Victoria.
- Kerski, Joseph J., and Reiter, Steve. 2004. Interpreting the landscape with USGS maps, aerial photographs, and GPS. *2004 Interpretive Sourcebook*. Fort Collins, CO: National Association of Interpretation, pp 138-139.
- Kerski, Joseph J. 2004. Analyzing the Earth with Geographic Information Systems. *NSS News*. Huntsville, AL: National Speleological Society. March.
- Kerski, Joseph J. 2003. Geography education across the Atlantic at the Geographical Association. *Journal of Geography* 102(5). Natl Council for Geographic Education.
- Kerski, Joseph J. 2003. The implementation and effectiveness of GIS in secondary education. *Journal of Geography* 102(3): 128-137. National Council for Geographic Education.
- Kerski, Joseph J. 2002. Introducing Geography and Technology into Science Through Biodiversity. *Meridian--A Middle School Technology Journal* (5): 1. Winter.
- Kerski, Joseph J., and Phil Klein. 2002. Geography in the K-12 curriculum in Colorado: Results of a survey of social studies coordinators, 2001-2002. *Research in Geographic Education* 2(2): 78-99.
- Kerski, Joseph J. 2001. The Implementation and Effectiveness of GIS in Secondary Education. *International Research in Geographic and Environmental Education*.

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| <b>Other</b>                          | <p>Fall.</p> <p>Kerski, Joseph J. and Alan Ward. 2000. GIS Education for Mapping Professionals. <i>Geomatics International Magazine</i>. July 2000.</p> <p>Kerski, Joseph J. and Steve Wanner. 2000. Mapping a Course in GIS and GPS in the High School Geography Curriculum. <i>Point of Beginning</i>. Business News Publishing, Inc.</p> <p>Kerski, Joseph J. 2000. Exploring Glaciation with USGS Resources. <i>Focus, Geography's Magazine</i>. Winter. American Geographical Society.</p> <p>The Implementation of GIS in American Secondary Education: Results from a National Survey. 1999. <i>Proceedings, 19<sup>th</sup> Annual ESRI User Conference</i>.</p> <p>The Effectiveness of GIS in High School Education. 1999. <i>Proceedings, 19th Annual ESRI User Conference</i>.</p> <p>Kerski, Joseph J. 1998. Teaching About Karst. <i>Focus, Geography's Magazine</i> 45(2): 15-21. Fall. American Geographical Society.</p> <p>Fits, Starts, and Headway: The Implementation of ArcView GIS-based Lesson Modules in the High School Geography Curriculum. 1998. <i>Proceedings, 18th Annual ESRI Conf.</i></p> <p>The Impact of the Bruce R. Watkins Parkway on Neighborhoods in Kansas City, Missouri. 1993. <i>Master's Thesis, Department of Geography, University of Kansas</i>.</p> <p>USGS Generates Digital Maps for Thematic Cartographic Projects. 1993. <i>Geo Info Systems</i> 3(1): 36-41.</p> <p>Articles and book reviews published each year in: <i>ArcWatch, GIS Educator, and ArcNews (ESRI), People, Land, and Water (US Department of the Interior Newsmagazine), Spatial News (GeoComm Corp.), NCGE Perspective, AAG Newsletter, AAG Specialty Group Newsletters, Geography.about.com, Colorado Geographic Alliance News</i>, other newsmagazines, educational listservs, and sites-of-the-week services.</p>   |
| <b>Recent Professional Activities</b> | <p><b>National Council for Geographic Education, 1995-2012.</b></p> <ul style="list-style-type: none"><li>• Elected to NCGE Executive Board, Research and External Relations, 2002-2004, Vice President 2008-2010, President, 2011. Create and maintain educational partnerships between NCGE and other educational organizations. Conducted presentations and workshops on GIS in education, cultural geography, and physical geography.</li></ul> <p><b>National Science Foundation Funded Projects, 1995-2012.</b> Assisted with proposal writing, teaching, curriculum, and on Advisory Board for the following projects:</p> <ul style="list-style-type: none"><li>• GIS Tech, Del Mar College, Texas: <a href="http://gistech.delmar.edu/">http://gistech.delmar.edu/</a>.</li><li>• GIS Career and Education initiative, California: <a href="http://geoinfo.sdsu.edu/hightech/">http://geoinfo.sdsu.edu/hightech/</a></li><li>• GeoTech Center: <a href="http://www.geotechcenter.org">http://www.geotechcenter.org</a></li><li>• Crossing Boundaries Project, New York: <a href="http://crossingboundariesproject.org/">http://crossingboundariesproject.org/</a>.</li></ul> <p><b>Partnership for 21<sup>st</sup> Century Skills, 2004 and 2009.</b></p> <ul style="list-style-type: none"><li>• Served with a National Council for Geographic Education Task Force on the Partnership for 21<sup>st</sup> Century Skills, to include geography on a critical set of documents for the US Department of Labor and US Department of Education (<a href="http://www.21stcenturyskills.org">www.21stcenturyskills.org</a>).</li></ul> <p><b>Bird's Eye: Remote Sensing in Education, NASA and NCGE, 2006-2009.</b></p> <ul style="list-style-type: none"><li>• Create curricular materials as part of NASA-funded project with the National Council for Geographic Education that use remote sensing technologies and imagery.</li></ul> <p><b>My Community Our Earth Project, 2005-2009.</b></p> <ul style="list-style-type: none"><li>• Partner with and advise the Association of American Geographers and ESRI to conduct geography and watershed institutes and ongoing curriculum development for instructors in the Pacific Basin, Latin America, Philippines, and Tunisia.</li></ul> |

**Taiwan Geography Education Association, Taipei Normal University, 2008.**

- Give 2 keynote addresses and teach GIS and GPS workshops by invitation.

**Teaching with Primary Resources, Fairfield University, 2009.**

- Advise and give presentations and webinars for Library of Congress-funded project.

**University of Cambridge, Liverpool Hope University, United Kingdom, 2007.**

- Give keynote address and teach a variety of GIS workshops as part of UK and Europe-based educational initiatives, including Cambridge Partnership and HERODOT.

**GIS For Oil and Gas Professionals, Colorado School of Mines, Mesa State College, 2007-08.**

- Co-conducted institutes for mining and oil and gas professionals in GIS and GPS.

**Earthcaching and GoEarthTrek, Geological Society of America, 2006-2009.**

- Advise, create curriculum, and conduct workshops in these field-based geotechnology NGS-funded projects.

**Definitions Project, National Interpretation Association, 2006-2007.**

- Partner with 26 federal agencies and nonprofit associations to create metadata for environmental education and interpretive work.

**National 4H GeoTechnologies Project, USDA and ESRI, 2003-2009.**

- Partner with USDA and ESRI on curriculum development and teach webinars on the effective use of GPS and GIS in informal education settings.

**Book, Geographic Education National Implementation Program, 2006-2007.**

- Book proposal that fosters teaching and learning using Virtual Globe technologies (such as Google Earth and NASA Worldwind) and web-mapping tools (such as The National Map and National Atlas).

**Proposal to Create and Maintain NSDI Liaisons Web Resources in NGPO, 2006.**

- Create template for liaisons in the National Geospatial Partnerships Office, USGS.

**Education Portal Web Master, 2006.**

- Create new content for and manage <http://education.usgs.gov> education portal.

**Exploring Biodiversity and Urban Sprawl Along Colorado Front Range, 2000-2006.**

- Conduct workshops in the use of geographic techniques in biology education, write curricula using GIS, and serve on advisory board in NGS-funded project and beyond.

**Exploring Geography Using Geotechnologies, New Zealand, 2005.**

- Gave presentation on the importance of spatial thinking to society for the US Ambassador to New Zealand and the Ministry of Education; co-conducted institute in the use of GIS and GPS to examine geographic issues for groups of international teachers in New Zealand.

**Examining Sustainability, Biodiversity, Ecotourism, and Geography Using Geotechnologies, Costa Rica, 2004-2005.**

- Co-created and co-conducted 9-day institutes in the use of GIS and GPS to examine geographic issues for groups of international teachers in Costa Rica.

**Book and Web Resource Reviews, College Board, 2004.**

- Reviewed books and Internet resources for College Board web site to support educators teaching AP Human Geography.

**Assessment of GIS Program, Burlington County College, New Jersey, 2004.**

- Created 30-page assessment and recommendations for college on current status and future of college's GIS program.

**Geography and GIS Web Site Assessment, 3Clix.Info, 2004-2005.**

- Identified, assessed, and rated web-based geography and technology resources for

3Clix Company.

**Distance Learning and GIS Curriculum Development, North Carolina School of Mathematics and Science, 2004-2005.**

- Created on-line and in-school curriculum, gave keynote addresses, and taught classes in the use of geotechnologies for faculty and students.

**Standing Rock Sioux GIS Workshop, GIS Workshops for Educators, 2004.**

- Created and conducted workshops in the use of GIS for tribal, scientific, and educational applications at two tribal headquarters and at the South Dakota Department of Education.

**Spatial Education Coordination with Orton Family Foundation, 2000-2004.**

- Coordinated curriculum development and training for educators with the Orton Family Foundation's Community Mapping Program.

**Virtual Immersion in Science Inquiry for Teachers, 1998-2003.**

- Conduct workshops in the use of GIS for science and geography teachers in this NSF-sponsored project, contribute to online learner collaboratory, serve on advisory board.

**Geography Education Magazine for Science (GEMS), 2002-2004.**

- Sought and received National Geographic Society funding for this electronic magazine portal to federal educational resources; advise web designer; create content; publicize.

**Jefferson County, Adams-12, and Horace Mann Middle School, Educational GIS Implementation Projects, Colorado, 1996-2007.**

- Co-wrote three approved grants, created natural hazards, oil, county demographics, and neighborhood analysis GIS-based lessons, and instructed teachers and students.

**National GIS Institutes, Texas State Workforce Development Program, Texas State University, 1998, 1999, and 2003.**

- Co-trained instructors from across the USA and Canada in GIS techniques in the first such institutes ever conducted.

**Satellite Broadcast, Southwest Indian Polytechnic Institute, Albuquerque, 1999.**

- Participated in broadcast to all Native American colleges and universities about applications of GIS on tribal lands and in tribal schools.

**First GIS Institute for Preservice Educators, Roger Williams University, 1999.**

- Trained Department of Education faculty from across the USA on GIS in the first institute for education faculty who train teachers.

**Native American GIS / Internet Institute, Northern Arizona University, 1999.**

- Co-trained 15 Native American educators and tribal environmental professionals across the USA and Canada in GIS and Internet techniques.

***Selected  
Conference  
Workshops  
and Papers***

**National Council for the Social Studies, 2006-2008.**

- Create and conduct workshops and presentations on using GIS for teaching history.

**International GIS Conference, Istanbul, Turkey, 2008.**

- Presented workshop, panel, and paper on GIS in education for international audience.

**Delaware GIS Conference, 2008.**

- Capstone presenter.

**International Society for the Digital Earth, 2007.**

- Presented paper on GIS in education for international audience.

**New Zealand Geographical Society and New Zealand Social Science Conferences, 2003, 2005, 2007.**

- Conduct workshops across New Zealand for instructors integrating GIS technology and

methods into secondary and university curricula.

**National Council for Geographic Education, 1995-2009.**

- Conduct workshops on the environment, glaciation, karst, mapping, GIS, and GPS.

**Geographical Association, UK, 2001-2004.**

- Create and nurture partnerships between the Geographical Association and other organizations, conduct workshops, present papers.

**International Geographical Union, 2003.**

- Present paper on the interaction between GIS and citizenship education at the IGU's Commission on Geographical Education conference, University of London.

**National States Geographic Information Council, 2006.**

- Conducted presentation for researchers at the Pacific Institute for Research and Evaluation on social and environmental study in Baltimore; educational partnership efforts.

**National Interpretation Association, 2002-2006.**

- Conduct workshops on GPS for conference attendees.

**National Indian Education Association, 2001-2005.**

- Conducted presentations on cooperative agreement between USGS and Rosebud Sioux; on GIS in Native American education, and hands-on GIS workshops.

**Association of American Geographers, 1994-2009.**

- Presented papers on Exploring Biodiversity along the Front Range, Analyzing State Population Centers from 1900 to 1990, and other geographic research.

**ESRI User Conferences, San Diego, California, 1998-2008.**

- Presented papers and user demonstrations on implementing and assessing GIS in the secondary school curriculum; operated USGS exhibits; organized map gallery.

**International Conference on GIS In Education, San Bernardino, California, 2000.**

- Presented papers and workshops on implementing and assessing GIS in education and operated USGS information exhibit.

**World 2000 Conference on Teaching World History and Geography, Univ of Texas.**

- Conducted presentation on teaching university-level world history and geography.

**Association for Educational Communications and Technology, 1999.**

- Conducted workshop on pedagogical implications of the use of GIS.

**Western Social Science Association, 1998.**

- Presented research on population polarization on the Great Plains.

**Geo-Tech Texas, Dallas, 1997-2007.**

- Plan and conducted workshops for educators on technology in geography education, fieldwork, Antarctica, and teaching with topographic and thematic maps.

**Annual Meetings, Geological Society of America, 1996-2007.**

- Co-conducted workshops for teachers with ESRI on GIS and earth science.

**Recent  
Research and  
Development  
Projects**

*GeoTech Center.* 2009-2014. NSF-funded project that creates community college geotechnology center across the USA for career pathways in geotechnologies.

*CREST: Community for Rural Education, Stewardship, and Technology.* 2008-2011. Project that provides students and teachers in Maine's island and remote coastal communities with intensive IT training and IT/STEM career path development.

*Community Science Investigators.* 2008-2010. ITEST Strategies project with the Missouri Botanical Garden and the Massachusetts Institute of Technology in offering intensive year-long, career-focused technology experiences for middle school youth and teachers in an

out-of-school setting. Through CSI, participants will deepen their understanding of (and ability to apply) geospatial, simulation, and communication technologies as they address environmental and conservation-related issues.

*The Implementation of GIS Technology and Methods in Education. 2003-2008.* Analysis of how and why educators who have attended a GIS training have implemented GIS.

*iGETT: Integrated Geospatial Education and Technology Training. 2005-2008.* NSF-ATE funded project to enable two-year colleges to meet changing workforce training needs by integrating GIS, GPS, and RS.

*GIS-TECH. 2003-2007.* NSF-DUE funded project to infuse geotechnologies throughout the secondary curriculum, provide articulation mechanism to 4-year institutions, establish community college GIS certificates, develop data sets, and establish training modules.

*MyWorld GIS Project. 2004-2006.* Curriculum development and advising committee support on this GIS software developed with a grant from NSF to Northwestern University.

*Global GIS Project. 2003-2005.* Curriculum development on natural hazards, population, land use, mining, manufacturing, and other themes based on customized GIS tools and data.

*Mapping the Colorado Standardized Achievement Program (CSAP), 2003-2004.* Examine the spatial patterns of Colorado's standard achievement scores at different scales and grade levels.

*Exploring Biodiversity in the Denver Metropolitan Area, 2000-2002.* Research, teacher training, and curriculum development that examine open space, population growth, and diversity of species, illustrating that geographic concepts can be effectively taught in biology courses.

*Historical Floodplains Along the Rocky Mountain Front Range, 2001-2005.* Created lessons that use historical and current aerial photography, GIS, local building and floodplain data, and ground photographs to analyze the real threat of floods along with land use issues.

*Retail Spatial Diffusion Modeling, 2002.* Create lessons that use GIS and historical point data to examine point diffusion across the country using Sonic Drive-In as the model.

*Exploring the Titanic Using GIS, 2002.* Write 210 question, 80-page, 17-part unit that uses GIS to examine the route, sinking, rescue, and discovery of the ocean liner *Titanic*.

*Mapping the Future with USGS Educational Resources, 1996-2003.* Examined and tested USGS resources for earth science and geographic education, including the development of digital datasets and lesson modules.

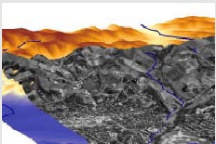
*Site Selection for Rare Plants, Loess Hills, Nebraska, 1998-2004.* Lessons focused on selecting sites to study rare species in the Loess Hills using GIS.

*State Historical Population Centers, 2001-2002.* Co-developed methods (with ESRI) and examined social and economic reasons for shifting changes in state population centers.

*Geography Awareness Week Flyer and CD-ROM, 2000.* Research and production of flyer and CD-ROM for 150,000 geography educators worldwide.

*The Polarization of the Great Plains, 1920-1990. 1998.* University of Colorado. Analysis of population decline and redistribution on the Great Plains.

*Creation of, maintenance of, and training of data users in Internet spatial data access. 1995-2003.* Create and maintain Internet resources for Colorado Geographic Alliance. Create and maintain RockyLink geospatial resource center; train users in Internet tools and resources.



*Multimedia Authoring Evaluation.* 1996. Researched multimedia authoring packages.

*Production of CD-ROM for GIS-based research in Alaska.* 1995. Researched and created the first demonstration CD-ROM containing digital spatial data, metadata, standards, and applications to educate data users and market programs for potential partners.

*Redesigning USGS Graphic Map Products.* 1994-1995. USGS. Researched, designed, and tested methods for redesign of USGS 1:24,000 and 1:100,000-scale maps using ArcInfo.

*Developing a Marketing-Demonstration for DLG-E Data Model.* 1994-1995. USGS. Developed GUI's illustrating the feature-based digital line graph "enhanced" model.

*The Impact of Freeways on Urban Environments.* 1993. University of Kansas. Developed field and GIS-based research tools to analyze the economic and social impacts of freeways in time and space in urban neighborhood.

### **Grants and Awards**

- *Media Award, NCGE.* Part of Schlessinger media project, *Geography for Students*, 2009.
- *Special Achievement in GIS, ESRI.* Part of NSF-funded GIS project, Del Mar College, Texas, 2007.
- *Award for Geography Education, Travelocity,* 2006. \$5000.
- *Fellow, Royal Geographical Society.* Inducted 2003.
- *Geography Education Magazine of Science.* 2002. \$2500. National Geographic Society Education Foundation.
- *NCGE Dissertation Award.* 2001. \$500. One of two recipients.
- *ESRI Special Award for Outstanding Contribution to GIS.* Given at ESRI User Conference, 2000. Sole recipient.
- *Geospatial Information Technology Association.* Research Grant. \$1,000. Sole recipient.
- *Boulder Valley School District, Tech 21 Grant.* 1999. \$10,000. Co-Principal Investigator.
- *Red Rocks Community College.* 1999. Proposal for GIS Certificate Program. \$1,000. Co-Principal Investigator.
- *National Geographic Society Education Foundation.* 1997 and 1999. Jefferson County and Adams 12 School Districts. \$25,000 and \$30,000.
- *Human Resources Initiative, US Department of the Interior.* A Sharable USGS Central Region Visitors Center. FY 1999. \$49,500. Principal Investigator.
- *Human Resources Initiative, US Department of the Interior.* A Scientific CD-ROM for the 1999 Geography Awareness Week Packet. \$20,000. Principal Investigator.
- *ESRI / International Geographic Information Foundation.* 1998. Research Grant. \$1,000.
- *Geographic Education National Implementation Project.* 1998. Dissertation Grant, \$2,000.
- *National Geographic Society Education Foundation.* 1998. Smoky Hill High School, \$7,500. Assist in grant writing and partner on project.
- *Geospatial Information Technology Association.* 1997. Ed Forrest Award, \$2,000. Sole recipient.
- *National Geographic Society Education.* 1996. Horace Mann School, Denver. \$10,900.

### **Memberships**

Royal Geographical Society: 2003-2008

Association of American Geographers [AAG]: 1992-present

Geography Education Specialty Group Secretary-Treasurer: 1998-2000

Specialty Groups: Education, GIS, Cartography, Cultural Geography

National Council for Geographic Education [NCGE]: 1995-present

President: 2011; Vice President: 2008-2010; Board Member: 2002-2004

Geographical Association (UK): 2001-present

Colorado Geographic Alliance [COGA]: 1995-present

Board of Directors: 2001-2003; Advisory Board: 2008-2010.

National Council for the Social Studies: 2007-2009.

National Science Teachers Association: 2007-2009.  
Geospatial Information Technology Association: 2005-2007  
K-12 Education Committee: 2005-present  
Association for Supervision and Curriculum Development (ASCD): 2001-2002; 2007.  
Colorado Scientific Society: 1990-2005  
Geological Society of America [GSA]: 1998-1999  
National Geographic Society [NGS]: 1987-2009.  
National Speleological Society [NSS]: 1993-present  
Urban and Regional Information Systems Association [URISA]: 1993-1998  
The Nature Conservancy: 1999-2005.

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**References**

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