

**Michael N. Solem, Ph.D.**

American Association of Geographers  
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**PROFESSIONAL PREPARATION**

**Ph.D., Geography.** Department of Geography, University of Colorado, Boulder. December 1999.

Dissertation: *The Diffusion, Adoption, and Effects of Instruction with the Internet in U.S. College Geography.*

Ph.D. Committee Chair: A. David Hill.

**M.S., Geography.** Department of Geography, Pennsylvania State University. August 1995.

Thesis: *Fire History of the Caribou Wilderness, Lassen National Forest, CA.*

MS Committee Chair: Alan H. Taylor.

**B.S., Earth Sciences (Geography Minor).** Department of Earth Sciences, Pennsylvania State University. August 1993.

**APPOINTMENTS**

**Deputy Director for Research and Education,** American Association of Geographers, Washington, D.C. July 2016 – present. My AAG responsibilities include managing staff and directing a wide array of broad-based, externally funded projects and programs for geography education at all levels.

**Co-Director, National Center for Research in Geography Education,** December 2013 – present ([www.ncrge.org](http://www.ncrge.org)). NCRGE is a research coordination network for transformative research in geography education, headquartered at the AAG and Texas State University.

**Research Professor and Lecturer.** Department of Geography, Texas State University, San Marcos, TX. December 2013 – present.

**Acting Executive Director,** American Association of Geographers, Washington, D.C. May 1 – November 1, 2011. Managed association affairs during Executive

Director's six-month sabbatical in addition to my ongoing responsibilities as Educational Affairs Director.

**Educational Affairs Director**, Association of American Geographers, Washington, D.C. September 2003 – July 2016.

**Assistant Professor**. Department of Geography, Southwest Texas State University, San Marcos, TX. August 2000 – August 2003.

**Visiting Assistant Professor**. Department of Geography and Environmental Studies, University of Colorado, Colorado Springs. August 1999 - May 2000.

**Graduate Part-Time Instructor**. Department of Geography, University of Colorado, Boulder. August 1998 - May 1999.

**Research Assistant**. Center for Geography Education, University of Colorado, Boulder. August 1996 - August 1998.

**Adjunct Instructor**. Department of Geography and Earth Science, Shippensburg University. August 1995 - May 1996.

**Research Assistant**. Biogeography Laboratory, Department of Geography, Pennsylvania State University. August 1993 - August 1995.

## **PUBLICATIONS**

### **Refereed Articles**

#### 2016

Kollasch, A., Lee, J., & Solem, M. Developing Workplace Skills and Competencies in Geography Graduate Programs. In press, *Research in Geographic Education*.

#### 2015

Lambert, D., Solem, M., & Tani, S. 2015. Achieving human potential through geography education: a capabilities approach to curriculum making in schools. *Annals of the Association of American Geographers*, 105(4): 723-735.

#### 2014

Klein, P., Pawson, E., Solem, M., and Ray, W. 2014. Geography education for "An Attainable Global Perspective", *Journal of Geography in Higher Education*, 38(1): 17-27.

Huynh, N., Solem, M., & Bednarz, S. 2014. A Road Map for Learning Progressions Research in Geography, *Journal of Geography*, 114 (2): 69-79.

McKendry, J., Adams, J., and Solem, M. 2014. Employer perspectives on the value of geographic expertise, skills, and technologies. *Research in Geographic Education*, 16(1): 23-39.

Schlemper, B., Adams, J., and Solem, M. 2014. Geographers in business, government, and nonprofit organizations: Skills, challenges, and professional Identities. *The Professional Geographer*, 66(3): 480-492.

Solem, M., and Balachandran, C.S. 2014. Internationalizing geography education: a focus on India, *Journal of Geography in Higher Education*, 38(1): 7-16.

### 2013

Bednarz, S.W., S. Heffron, and M. Solem. 2014. Geography standards in the United States: Past influences, future prospects. *International Research in Geographical and Environmental Education*, 23(1): 79-89.

Solem, M., Kollasch, A. and Lee, J. 2013. Career goals, pathways and competencies of geography graduate students in the USA, *Journal of Geography in Higher Education*, 37(1): 92-116.

Solem, M., Lambert, D., and Tani, S. 2013. GeoCapabilities: Toward an international framework for researching the purposes and values of geography education. *Review of International Geographical Education Online*, 3(3): 214-229.

### 2012

Foote, K., Bednarz, S., Monk, J., Solem, M., and Stoltman, J. 2012. Rethinking postgraduate geography education in the USA: Issues and concerns, *Journal of Geography in Higher Education*, 36(1): 57-64

Monk, K., Foote, K., and Solem, M. 2012. Rethinking Postgraduate Education in Geography: International Perspectives on Improving Practice, *Journal of Geography in Higher Education*, 36(1): 25-27.

Ray, W., Muniz, O., Klein, P. and Solem, M. 2012. Effective online practices for international learning collaborations. *Review of International Geographical Education Online*, 2(1): 26-44.

### 2011

Solem, M. 2011. Towards a scholarship of academic practice. *Journal of Geography in Higher Education*, 35(3): 311-314.

Solem, M. and Ray, W. 2011. Thinking geographically about Asia: Case studies and collaborative projects for high school and undergraduate students. *Education About Asia*, 16 (Spring 2011): 59-61.

Solem, M., Hopwood, N., and Schlemper, B. 2011. Experiencing graduate school: A comparative analysis of students in geography programs. *The Professional Geographer*, 63(1): 1-16.

#### 2009

Foote, K. and Solem, M. 2009. Toward better mentoring for early career faculty: Results of a study of U.S. geographers. *International Journal for Academic Development*, 14(1): 47-58.

Ray, W. and Solem, M. 2009. Gauging disciplinary engagement with internationalization: A survey of geographers. *Journal of Geography in Higher Education*, 33(1): 103-121.

Solem, M., Lee, J., and Schlemper, B. 2009. Departmental climate and student experiences in geography graduate programs. *Research in Higher Education*, 50(3): 268-292.

Solem, M. and Foote, K. 2009. Enhancing Departments and Graduate Education in Geography: A disciplinary project in professional development. *International Journal of Researcher Development*, 1(1): 11-28.

#### 2008

Higgitt, D., Donert, K., Healey, M., Klein, P., Solem, M., and Vajoczki, S. 2008. Developing and enhancing international collaborative learning. *Journal of Geography in Higher Education* 32(1): 121-133.

Klein, P., and Solem, M. 2008. Evaluating the impact of international collaboration on geography learning. *Journal of Geography in Higher Education*, 32(2): 245-267.

Solem, M., Cheung, I., and Schlemper, B. 2008. Skills in professional geography: An assessment of workforce needs and expectations. *The Professional Geographer*, 60(3): 1-18.

#### 2006

Solem, M., Chalmers, L., DiBiase, D., Donert, K., and Hardwick, S. 2006. Internationalizing professional development in geography through distance education. *Journal of Geography in Higher Education*, 30(1): 147-160.

#### 2004

Solem, M.N., and Foote, K.E. 2004. Concerns, attitudes, and abilities of early-career geography faculty. *Annals of the Association of American Geographers*, 94(4): 889-912.

2003

Solem, M.N., Bell, S., Fournier, E., Gillespie, C., Lewitsky, M., and Lockton, H. 2003. Using the Internet to support international collaborations for global geography education. *Journal of Geography in Higher Education*, 27(3): 239-254.

2002

Solem, M.N. 2002. The Online Center for Global Geography Education. *International Research in Geographical and Environmental Education*, 11(3): 296-298.

2001

Solem, M.N. 2001. Using Geographic Information Systems and the Internet to support problem-based learning. *PLANET: Journal of the National Subject Centre for Geography, Earth and Environmental Sciences (Special Edition II)*: 22-24.

Solem, M.N. 2001. Choosing the network less traveled: perceptions of Internet-based teaching in college geography. *The Professional Geographer*, 53(2): 195-206.

Solem, M.N. 2001. A scoring guide for assessing issues-based geographic inquiry on the Web. *Journal of Geography*, 100(2): 87-94.

Taylor, A.H. and Solem, M.N. 2001. Fire regimes and stand dynamics on an upper montane forest landscape in the southern Cascades, Caribou Wilderness, USA. *Journal of the Torrey Botanical Society*, 128: 350-361.

2000

Solem, M.N. 2000. Differential adoption of Internet-based teaching practices in college geography. *Journal of Geography*, 99(5): 219-227.

Solem, M.N. 2000. The Virtual Geography Department project: assessing an agent of change in geography education. *Journal of Geography in Higher Education*, 24(3): 353-364.

Stainfield, J., Fisher, P., Ford, R., and Solem, M.N. 2000. International virtual field trips: a new direction? *Journal of Geography in Higher Education*, 24(2): 255-262.

1999

Hill, A.D., and Solem, M.N. 1999. Geography on the Web: changing the learning paradigm? *Journal of Geography*, 98(3): 100-107.

1998

Hill, A.D., and Solem, M.N. 1998. The Boulder Creek Virtual Field Study. *Interaction*, 26(2): 39-42.

### **Books (edited)**

Healey, M., Pawson, E., and Solem, M. (eds.) 2010. *Active Learning and Student Engagement: International Perspectives and Practices in Geography in Higher Education*. Abingdon: Routledge.

Muñiz, O., Solem, M., and Boehm, R. (eds.) 2017. *Learning Progressions in Geography Education: International Perspectives*. Cham, Switzerland: Springer International Publishing.

Solem, M.N., Huynh, N.T., and Boehm, R.G. 2015. *Learning Progressions for Maps, Geospatial Technology, and Spatial Thinking: A Research Handbook*. Cambridge Scholars Press: Newcastle upon Tyne, UK.

Solem, M., Foote, K., and Monk, J. (eds.) 2013. *Practicing Geography: Careers for Enhancing Society and the Environment*. Pearson Education: Upper Saddle River, NJ.

Solem, M., Foote, K., and Monk, J. (eds.) 2009. *Aspiring Academics: A Resource Book for Graduate Students and Early Career Faculty*. Pearson Prentice Hall: Upper Saddle River, NJ.

Solem, M. and Foote, K. (eds.) 2009. *Teaching College Geography: A Practical Guide for Graduate Students and Early Career Faculty* (editor, with Kenneth Foote). Pearson Prentice Hall: Upper Saddle River, NJ.

### **Book chapters**

Solem, M. (forthcoming) Geography education, workforce trends, twenty-first-century skills, and geographical capabilities, *AAG International Encyclopedia of Geography*.

Solem, M., and Tani, S. (forthcoming) Geography education, primary and secondary, international perspectives, *AAG International Encyclopedia of Geography*.

Solem, M., and Lambert, D. 2015. *Researching Progress and Sophistication in Geography Learning: Taking a Critical Stance*. In Solem, M., Huynh, N., and Boehm, R (eds.), *Learning Progressions for Maps, Geospatial Technology, and Spatial Thinking: A Research Handbook*, pp. 56-64 (Newcastle Upon Tyne: Cambridge Scholars Publishing).

Solem, M. 2012. Geography Education: The Quest for Geographic Literacy and Beyond. In Stoltman, J. (ed.), *21<sup>st</sup> Century Geography: A Reference Handbook*, pp.763-772 (Thousand Oaks, California: SAGE Publications, Inc.).

Solem, M. 2009. Geography and Global Learning. In M. Solem and K. Foote (eds.), *Teaching College Geography: A Practical Guide for Graduate Students and Early Career Faculty*, 111-120 (Upper Saddle River, NJ: Pearson Prentice Hall).

Solem, M. 2008. Spatial thinking: A conceptual approach to teacher professional development. Foreword to Gersmehl, P., *Teaching Geography* (2<sup>nd</sup> edition). New York: Guilford Press.

Solem, M. 2006. Geography education. In B. Warf (ed.), *Encyclopedia of Human Geography*, 182-184 (London: Sage Publications).

Solem, M. 2004. Reaching New Standards: Geography's Return to Relevance in American Education, In D. Janelle, B. Warf, and K. Hansen (eds.) *WorldMinds: Geographical Perspectives on 100 Problems*, 137-141 (Dordrecht, Netherlands: Kluwer Publishers).

### **Book reviews**

Healey, M, *Resource-based Learning in Geography*, in *Journal of Geography*, 99(3-4): 178-180.

Shepherd, I, *Teaching and Learning Geography with Information and Communication Technologies*, in *Journal of Geography*, 99(3-4): 178-180.

### **Conference proceedings (refereed)**

Foote, K., Solem, M., and Monk, J. 2009. Developing geographic competencies for careers in higher education, business, government, and non-profit organizations. Proceedings of the Development of Competencies in the World of Work and Education (DECOWE) Conference, 24-26 September 2009, University of Ljubljana, Slovenia.

Klein, P., and Solem, M.N. 2006. Strategies for teaching geography through international collaboration. In Purnell, K., Lidstone, J., and Hodgson, S. (eds.), *Changes in Geographical Education: Past, Present, and Future*, pp. 259-263 (Royal Geographical Society of Queensland: Brisbane, Australia).

Solem, M.N. 2005. Internationalizing geography in higher education: Initiatives of the Association of American Geographers. In *Changing Horizons in Geography Education*, Karl Donert and Premyslaw Charzynski (eds), pp. 212-217. HERODOT: Torun, Poland.

Solem, M.N. 2004. Designing geography instructional materials for global citizenship, In A. Kent and A. Powell (eds.) *Geography and Citizenship Education: Research Perspectives*, pp. 33-42 (Institute of Education, London, U.K.).

Solem, M.N. 2002. Delivering an online certificate program in Geographic Information Systems. Proceedings of the Sloan-C International Conference on Online Learning. Internet, <http://dce.ucf.edu/aln2002/>

Solem, M.N. 2002. Evaluating a Web-based project to build international collaborations for global geography education, In L Houtsonen, W. Mngoma, and P. Hattingh, (eds.) Proceedings of the International Geographical Commission on Geographical Education, pp. 129-132 (Richards Bay, South Africa, 1-4August 2002).

Solem, M.N. 2001. Barriers and pathways to international collaborative learning on the Internet, In L. Houtsonen and M. Tammilehto (eds.) Proceedings of the IGU-CGE Helsinki Symposium on Innovative Practices in Geographical Education, pp. 121-124. (Helsinki, Finland: Department of Geography, University of Helsinki).

Solem, M.N. 1998. Enhancing Geographic Information Science education through research, In Report of the International Workshop on Interoperability for GIScience Education, Soesterberg, The Netherlands, eds. K. Kemp, D. Reeve, and I. Heywood, pp. 53-58. Santa Barbara, CA: National Center for Geographic Information and Analysis, University of California.

#### **GRANTS (PRINCIPAL INVESTIGATOR OR CO-PRINCIPAL INVESTIGATOR)**

##### **Project Title: Research Coordination Network for Transformative Research in Geography Education.**

Source of Support: NSF (BCS-1560862)

Total Award Amount: \$400,000

Total Award Period Covered: 07/15/2016 – 07/15/2021

Location of Project: American Association of Geographers

PIs: Michael Solem (Project Director), Richard Boehm.

Description: This project will organize thematic research groups to carry out research with significant potential to inform, change, and improve educational practices in K-12 geography.

##### **Project Title: Geospatial Resources, Materials and Tools for STEM Teacher Preparation**

Source of Support: NSF (BCS-1451203)

Total Award Amount: \$199,816

Total Award Period Covered: 08/15/2014 – 08/15/2015

Location of Project: Association of American Geographers

PIs: Michael Solem (Project Director), Niem Tu Huynh, Richard Boehm, Emily Summers

Description: This project will develop and test the efficacy of a geospatial RMT with pre-service STEM teachers. The RMT will be built using ArcGIS Online.

##### **Project Title: Building Capacity for Learning Progressions Research in Geography**

Source of Support: National Science Foundation (DRL-1347859)



Total Award Amount: \$292,491

Period: 01/01/2014 – 01/01/2016

Location of Project: Association of American Geographers

Principal Investigators: Michael Solem (Project Director), Niem Huynh and Richard Boehm

Description: This project will create training materials and sponsor workshops to prepare graduate students to carry out learning progressions research based on national geography standards.

**Project Title: Aligning Learning Outcomes and Workforce Competencies for Terminal Geography and Geology Master's Degree Programs**

Source of Support: National Science Foundation (GEO-1202707)

Total Award Amount: \$109,842

Period: 06/01/2012 – 06/01/2014

Location of Project: American Geosciences Institute

Principal Investigators: Heather Houlton (AGI/Project Director) and Michael Solem (Co-PI)

Description: This project will implement surveys and interviews to assess learning outcomes in terminal geography and geology master's programs in relation to workforce requirements.

**Project Title: Researching and Improving Geography Teacher Preparation through Transatlantic Collaborations**

Source of Support: National Science Foundation (BCS-1155255)

Total Award Amount: \$99,294

Period: 07/01/2012 – 12/31/2015

Location of Project: Association of American Geographers

Principal Investigators: Michael Solem (Project Director), Susan Heffron (AAG/Co-PI)

Description: This project will conduct a comparative analysis of national curriculum frameworks in geography in the US and EU, and use this information to develop collaborative transatlantic programs for teacher preparation.

**Project Title: Internationalizing Geography Education: A Focus on Japan**

Source of Support: US-Japan Foundation

Total Award Amount: \$53,000

Period: 05/01/2012 – 05/01/2014

Location of Project: Association of American Geographers

Principal Investigator: Michael Solem

Description: This project will sponsor a delegation of American geography teachers and university professors to attend a workshop at the University of Tokyo where they will develop online geography educational resources in collaboration with Japanese educators.

**Project Title: Expanding U.S.-South Asia Collaborations in Geography Education**

Source of Support: National Science Foundation (OISE-1065935)

Total Award Amount: \$46,184

Period: September 15, 2011 – August 31, 2013

Location of Project: Association of American Geographers

Principal Investigator: Michael Solem

Description: This project sponsored a delegation of American geography teachers and university professors to attend a workshop in Bangalore, India where they developed online geography educational resources in collaboration with Indian educators.

**Project Title: Beyond the Ivory Tower: Researching and Improving Geography Graduate Education for STEM Careers in Business, Government, and Non-Profit Organizations**

Source of Support: National Science Foundation (DRL-0910041)

Total Award Amount: \$993,031

Period: September 1, 2009 – December 31, 2013

Location of Project: Association of American Geographers

Principal Investigators: Michael Solem (Project Director), Co-PIs: Kenneth Foote (University of Colorado), Janice Monk (University of Arizona), Beth Schlemper (University of Toledo), Jean McKendry (Association of American Geographers).

Description: Second phase of a broad-based project researching and supporting workforce development and early career preparation in geography.

**Project Title: Expanding U.S.-Southeast Asia Collaborations in Geography Education**

Source of Support: National Science Foundation (OISE-0854636)

Total Award Amount: \$48,400

Period: September 15, 2009 – August 31, 2011

Location of Project: Association of American Geographers

Principal Investigator: Michael Solem

Description: This project sponsored a delegation of American geography teachers and university professors to attend a workshop in Singapore where they developed online geography educational resources in collaboration with Southeast Asian educators.

**Project Title: Developing an Online Center for Global Geography Education – Phase 2**

Source of Support: National Science Foundation (DUE-0717170)

Total Award Amount: \$495,481

Period: September 1, 2007 – August 31, 2011

Location of Project: Association of American Geographers

Principal Investigators: Michael Solem (Project Director), Co-PIs: Phil Klein (University of Northern Colorado), Osvaldo Muñiz (Texas State University).

Description: Second phase of a project creating open-access resources for collaborative online international learning in geography.

**Project Title: Expanding Geography Education Networks in the Americas**

Source of Support: National Science Foundation (OISE-0652357)

Total Award Amount: \$48,578

Period: April 1, 2007 – March 31, 2009

Location of Project: Association of American Geographers

Principal Investigator: Michael Solem

Description: This project sponsored a delegation of American geography teachers and university professors to attend a workshop in Singapore where they developed online geography educational resources in collaboration with Latin American educators.

**Project Title: Enhancing Departments and Graduate Education in Geography**

Source of Support: National Science Foundation (REC-0439914)

Total Award Amount: \$1,021,369

Period: April 1, 2005 – December 31, 2009

Location of Project: Association of American Geographers

Principal Investigators: Michael Solem (Project Director), Co-PIs: Kenneth Foote (University of Colorado), Janice Monk (University of Arizona)

Description: First phase of a broad-based project researching and supporting workforce development and early career preparation in geography.

**Project Title: A Teacher's Guide to Modern Geography**

Source of Support: U.S. Department of Education Fund for the Improvement of Postsecondary Education

Total Award Amount: \$515,927

Period: September 1, 2004 – August 31, 2008

Location of Project: Association of American Geographers

Principal Investigators: Phil Gersmehl (University of Minnesota/Project Director), Co-PI: Michael Solem

Description: This project produced a comprehensive suite of digital and printed materials for geography teacher preparation.

**Project Title: Project GeoSTART**

Source of Support: NASA

Total Award Amount: \$92,834

Period: April 1, 2006 – December 31, 2007

Location of Project: Association of American Geographers

Principal Investigators: Sheryl Luzzadder Beach (George Mason University/Project Director), Co-PI: Michael Solem

**Project Title: Developing an Online Center for Global Geography Education**

Source of Support: National Science Foundation (DUE-0231411)

Total Award Amount: \$152,548

Period: May 15, 2003 – April 30, 2005

Location of Project: Association of American Geographers

Principal Investigator: Michael Solem

Description: First phase of a project creating open-access resources for collaborative online international learning in geography.

**OTHER PROJECT EXPERIENCE (AAG)**

**Advanced Placement Geographic Information Science & Technology.** Chair of AAG committee that developed a proposal for a new AP course in GIS&T. The proposal is under consideration at the College Board. Funding support from the Geography Education National Implementation Project (GENIP).  
[www.apgist.org](http://www.apgist.org).

**International Geography Assessment.** Co-Chair (with Professor Joseph Stoltman, Western Michigan University) of AAG committee that is designing an international geography assessment for possible future inclusion in the Trends in International Mathematics and Science Study. Funding support from the Geography Education National Implementation Project (GENIP).

**AAG GeoMentors.** This program is building a voluntary national network of mentors trained to support schools adopting GIS software from the Esri/ConnectED initiative.  
[www.geomentors.net](http://www.geomentors.net)

**AAG My Community, Our Earth (MyCOE): Geographic Learning for Sustainable Development.** Since joining the AAG staff I have provided evaluation, research, and professional development support to various MyCOE projects. Most recently I have participated in MyCOE initiatives funded by NASA and the State Department, which are funding workshops and online training to support teachers and youth focusing on applications of geospatial technology for sustainable development in local communities around the world.  
[www.aag.org/mycoe](http://www.aag.org/mycoe)

**AAG Departmental Leadership workshops.** Since June 2008 I have served as a leader in these workshops for building healthy geography departments. The workshops are held annually at the University of Colorado at Boulder.

**AAG Geography Faculty Development Alliance workshops.** Since 2002 I have participated in research and served as a leader in these workshops for preparing future faculty in geography. The workshops are held annually at the University of Colorado at Boulder.

**Geography Education National Implementation Project (GENIP).** Periodically since joining the AAG staff I have served on the board of GENIP, a committee that coordinates national geography education initiatives among the AAG, National Geographic Society, National Council for Geographic Education, and the American Geographical Society.

#### **OTHER PROJECT EXPERIENCE (EXTERNAL ORGANIZATIONS)**

**Roadmap to Geographic Literacy** (January 2011 – August 2013) Served on the research committee for the National Geographic Society's Roadmap project to develop a long-term research agenda for understanding the nature of geographic

literacy and how it can be developed through education in the geographical sciences.

**National Research Council Committee on the Future U.S. Workforce for Geospatial Intelligence** (March 2011 – January 2013) Served on an interdisciplinary committee examining workforce development issues for geospatial intelligence careers.

**Visiting academic, University of Waikato, New Zealand** (February 3 – 21, 2009). Investigated potential of using AccessGrid and EVO platforms for developing communities of practice for teacher professional development in social sciences disciplines.

**Graduate Ethics Seminars for Future Geospatial Technology Professionals** (October 2007 – September 2009). Provided external evaluation services for a project producing open-access educational resources for teaching professional ethics in the geospatial technology industry.

**MECESUP initiative, Universidad de La Serena, Chile** (April 2006). Consulted university-led initiatives for building geographic educational collaborations across the Americas through web conferencing and related online collaborative technologies.

**Where Faculty Live: Internationalizing the Disciplines** (September 2004 – June 2005) Led the geography component of an American Council on Education project exploring the status and potential of internationalizing the undergraduate geography curriculum.

**Step Up to Geography Distance Learning Master's Program in Geographic Education** (August 2000 – August 2003). Developed three online master's level courses for geography teacher education and served as co-director of the program based at Texas State University.

**Scope and Sequence for K-12 Geography** (October 2000) Designed materials for teachers aimed at presenting key content based on the national geography standards. The project was led by the Grosvenor Center for Geographic Education at Texas State University.

**NCGIA Symposium on Interoperability for Geographic Information Science Education** (May 1998) Consulted on an initiative held in Soesterberg, Netherlands for developing a framework for sharing and distributing spatial data for GIS education.

**Colorado Geographic Alliance K-12 Summer Institute** (June 1997) Served as a teaching assistant to help prepare K-12 geography teachers develop materials based on the Colorado state geography standards.

## **POSTSECONDARY TEACHING**

(Southwest) Texas State University (2000-2003): Fundamentals of GIS, Geography for Teachers, Geography of the US and Canada, Theory and Methods of Geographic Education, Nature and Philosophy of Geography.

University of Colorado (1999-2000): Human Geography, World Regional Geography.

Shippensburg University (1995-1996): Geography of the US and Canada, Geography of Latin America, Conservation of Natural Resources, World Geography.

## **AWARDS AND HONORS**

### **Service**

April 2015. AAG Gilbert M. Grosvenor Honors in Geographic Education.

October 2012. National Council for Geographic Education President's Award for Outstanding Contributions to Geography Education (with Doug Richardson and Susan Gallagher-Heffron).

### **Teaching**

October 2003. National Council for Geographic Education Distinguished Teaching Achievement Award

April 2002. Digital Sage Award. Southwest Texas State University.

February 2000. Best Practice Award for Teaching and Learning with Technology. University of Colorado, Colorado Springs.

March 1999. Faculty Dedication to Undergraduates Award, University of Colorado, Boulder.

### **Research**

April 2010. Journal of Geography in Higher Education Biennial Award, for Solem, M., Lee, J., and Schlemper, B. Solem, M., Lee, J., and Schlemper, B. 2009. Departmental climate and student experiences in geography graduate programs. *Research in Higher Education*, 50(3): 268-292.

January 2006. Journal of Geography in Higher Education Biennial Award, for Solem, M.N. and Foote, K.E. 2004. Concerns, attitudes and abilities of early-career geography faculty. *Annals of the Association of American Geographers*, 94 (4), 889-912.

May 2003. Grosvenor Center Fellow, Texas State University Department of Geography.

August 2000. First place, NCGE Doctoral Dissertation Award.

March 2000. Co-recipient, AAG Geography Education Specialty Group Paper Competition.

March 2000. Runner up, Nystrom Dissertation Award. Association of American Geographers.

## **MASTER'S AND DOCTORAL DISSERTATION COMMITTEES**

### Ph.D. Advisees

Xiaomin Qiu, Department of Geography, Southwest Texas State University.  
Cathy Springer, Department of Geography, Southwest Texas State University.

### Ph.D. Committees

Waverly Ray, Department of Geography, Texas State University.

Jeffrey Lash, Department of Geography, Southwest Texas State University.  
Dissertation: Exporting Education: The Case of the American University of Cairo (2001).

### M.S. Advisees

Amanda Ross, Department of Geography, Southwest Texas State University.  
Thesis: Window into Wilderness: A Content Analysis of Texas State and Federal Park Web Sites (2002).

### M.A.G Advisees

Allan Yarema, Department of Geography, Southwest Texas State University.

## **PROFESSIONAL SERVICE**

### **International**

Co-Coordinator, International Network on Learning and Teaching (INLT)

Editorial Board, *Journal of Geography in Higher Education*

Editorial Board, *Review of International Geographical Education Online*

Scientific Committee, *Journal of Research and Didactics in Geography*

Steering Committee (2008-2012 and 2012-2016), IGU Commission on Geographical Education

Honorary Member and Treasurer, (2016-2020), IGU Commission on Geographical Education

### **National**

Reviewer for FIPSE Comprehensive Program.

Reviewer for NSF Course, Curriculum and Laboratory Improvement (CCLI), Transforming Undergraduate Education in STEM (TUES), and Research Experiences for Undergraduates (REU) programs.

Manuscript reviewer for International Research in Geographical and Environmental Education, Journal of Geography, Journal of Geography in Higher Education, Research in Geographic Education.

Geography Education National Implementation Project (GENIP), AAG representative (November 2003 – December 2008).

AAG Geography Education Specialty Group (September 1996 – August 2003).

NCGE Dissertation Task Force (April 1, 2003 – March 31, 2006).

### **Departmental**

Online GIS Certificate Course Designer and Program Advisor, Department of Geography, Southwest Texas State University.

Travel, Graduate, and Mentoring Committees, Department of Geography, Southwest Texas State University.

Faculty advisor, Gamma Theta Upsilon, University of Colorado, Colorado Springs.

Faculty advisor, Geography Club, University of Colorado, Colorado Springs.

## **PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS**

Association of American Geographers  
International Geographical Union  
International Network for Learning and Teaching Geography in Higher Education  
National Council for Geographic Education

## **CONFERENCE PRESENTATIONS AND INVITED LECTURES**



October 2016. GeoCapabilities project lectures at Joetsu University of Education and Beijing Normal University.

August 2016. Presented paper on GeoCapabilities at the IGU Beijing Congress.

July 2016. National Center for Research in Geography Education paper and panel sessions, NCGE Annual Conference, Tampa.

April 2016. Various AAG project paper and panel sessions, American Association of Geographers Annual Meeting, San Francisco.

October 2015. GeoProgressions lectures, East China Normal University.

July 2015. National Center for Research in Geography Education paper and panel sessions, NCGE Annual Conference, Washington, DC.

April 2015. Various AAG project paper and panel sessions, American Association of Geographers Annual Meeting, Chicago.

October 2014. GeoCareerMaps paper presentation. Geological Society of America conference, Vancouver.

August 2014. Presented papers on GeoCapabilities and GeoProgressions. IGU Congress in Krakow, Poland.

April 2014. Various AAG project paper and panel sessions. AAG Annual Meeting, Tampa.

March 2014. Taught a four-day GeoCapabilities class with pre-service teachers at Beijing Normal University, Singapore. This class was followed by an invited lecture with undergraduate and graduate geography education students at East China Normal University in Shanghai.

November 2013. Taught a two-day GeoCapabilities class with pre-service teachers at Nanyang Technological University, Singapore.

September 2013. Presented papers on AAG GeoCapabilities and EDGE projects. EUGEO Conference, Rome, Italy.

August 2013. Presented paper on AAG-Japan educational collaborations. International Geographical Union Regional Congress in Kyoto, Japan.

May 2013. GeoCapabilities workshop and presentations. EUROGEO Conference, Bruges, Belgium.

April 2013. Various AAG project paper and panel sessions. AAG Annual Meeting, Los Angeles.

August 2012. Participant and presenter in the International Geographical Union Congress in Cologne, Germany and the IGU Commission on Geographical Education Symposium in Freiburg, Germany.

July 2012. Invited participant and presenter in the Third Annual Conference on Geographic Naming, Seoul, South Korea.

February 2012. Various AAG project paper and panel sessions. AAG Annual Meeting, New York City.

December 2011. Presenting EDGE research findings at the 2011 Conference of the Society for Research in Higher Education in Newport, Wales.

August 2011. Workshop, No Passports Required (AP Human Geography). National Conference on Geographic Education, Portland, Oregon.

April 2011. Various AAG project paper and panel sessions. AAG Annual Meeting, Seattle, Washington.

February 2011. Poster, "Measuring Competencies in Professional Geography". Conference on Modeling and Measuring Competencies in Higher Education, Berlin, Germany.

October 2010. Keynote session, "Careers for Enhancing Society and the Environment". Applied Geography Conference, Fort Worth, TX.

July 2010. Workshop, "No Passports Required". IGU-CGE Symposium in Istanbul, Turkey and the IGU Congress in Tel Aviv, Israel.

June 2010. Workshop, "Teaching International Perspectives". ICED Conference, Barcelona, Spain.

April 2010. INLT Workshop, "Towards a Scholarship of Academic Practice". AAG Annual Meeting, Washington, D.C.

March 14-18, 2010. Workshop, "Expanding U.S.-Asia Collaborations in Geography Education". Nanyang Technological University, Singapore.

March 2010. Workshop, "Teaching Spatial Thinking Skills", University of Tokyo.

March 2010. Workshop, "Teaching International Perspectives", University of Tsukuba.

December 2009. Paper, "Experiencing graduate school: A comparative analysis of students in geography programs". SRHE Annual Conference (Newport, Wales). Oxford Conference on Preparing for Academic Practice, Oxford University.

- August 2009. Workshop, "Teaching International Perspectives". IGU-CGE conference, Tsukuba, Japan.
- March 2009. Workshop, "Professional Development in the Graduate Curriculum". AAG Annual Meeting, Las Vegas.
- March 2009. Paper, "Experiencing graduate school: A comparative analysis of students in geography programs." AAG Annual Meeting, Las Vegas.
- March 2009. Workshop, "Professional Development in the Graduate Curriculum". No)Boundaries Graduate Student Conference, Penn State University.
- September 2008. Workshop, "No Passports Required". HERODOT Conference, Liverpool.
- August 2008. Paper, "Skills in Professional Geography." Royal Geographical Society Annual Meeting, London.
- June 2008. Poster, "Building Disciplinary Support for New Scholars". ICED Meeting, Salt Lake City.
- March 2008. Paper, "Departmental climate and student experiences in graduate geography programs." AERA Annual Meeting, New York City, NY.
- December 2007. Seminar, "Research on Faculty Development: A View from Geography". Oxford Conference on Preparing for Academic Practice, Oxford University.
- November 2007. Second Convening of the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) Leadership Program, Cork, Ireland.
- May 2007. Workshop, "Expanding Geography Education Networks in the Americas", Geography in the Americas Conference, La Serena, Chile.
- June 2006. Paper, "Strategies for Teaching Geography through International Collaboration." Symposium of the Commission on Geographical Education of the International Geographical Union and the International Cartographic Association, Brisbane, Australia.
- March 2006. Chair (multiple sessions), "Enhancing Departments and Graduate Education in Geography." AAG Annual Meeting, Chicago, IL.
- January 2006. Plenary, "Technology and Global Geography". Pre-Conference Symposium, *Recentering: Science and Global Learning at the Core*, AAC&U Annual Meeting.
- October 2005. Workshop, "A Teacher's Guide to Modern Geography". NCGE Annual Meeting, Birmingham, AL.

September 2005. Paper, "Supporting global learning in geography: Results of an international e-learning project." Royal Geographical Society Annual Conference, London, UK.

April 2005. Workshop, "Internationalizing Geography Education". AAG Annual Meeting, Denver, CO.

November 2004. Invited lecture, "Internationalizing Geography in Higher Education: Initiatives of the Association of American Geographers", sponsored by the Catalan Geographic Society, Barcelona, Spain.

October 2004. Workshop, "Online Center for Global Geography Education". NCGE Annual Meeting, Kansas City, MO.

August 2004. Paper, "The Online Center for Global Geography Education: Research Plans and Progress". IGU Congress, Glasgow, U.K.

March 2004. Panelist, "Geography and No Child Left Behind". AAG Annual Meeting, Philadelphia, PA.

March 2004. Panelist, "Geography and Global Education". AAG Annual Meeting, Philadelphia, PA.

October 2003. Panelist, "Geography Faculty Development Alliance: Helping Early Career Faculty Succeed in Academic Life". Joint Meeting of East Lakes/West Lakes Divisions of the AAG, Kalamazoo, MI.

October 2003. Panelist, "Mentoring Early Career Geography Faculty". NCGE Annual Meeting, Salt Lake City, UT.

May 2003. "Developing an online Center for Global Geography Education". Paper presented at Geo-Nexus: Research in Geographic and Environmental Education, Grosvenor Center for Geographic Education, San Marcos, TX.

March 2003. "Concerns of early career faculty: Perspectives from the 2002 Geography Faculty Development Alliance." Paper presented at AAG Annual Meeting, New Orleans, LA.

November 2002. "Delivering an online certificate program in Geographic Information Systems." Paper presented at the Sloan-C International Conference on Online Learning, Orlando, Florida.

October 2002. "Using the Internet to support international collaborative teaching and learning." Paper presented at the NCGE Annual Meeting, Philadelphia, Pennsylvania.

August 2002. "Evaluating a Web-based project to build international collaborations for global geography education." Paper presented at the IGU Regional Congress, Durban, South Africa.

March 2002. "The Global Geographic Inquiry Challenge Project." Paper presented at AAG Annual Meeting, Los Angeles, CA.

November 2001. "Using Geographic Information Systems and the Internet to support problem-based learning." Paper presented at the Southwest Regional Meeting of the AAG, Ft. Worth, TX.

August 2001. "Barriers and pathways to international collaborative learning on the Internet." Paper presented at the IGU-CGE Symposium on Innovative Practices in Geographical Education, Helsinki, Finland.

August 2001. "The Step Up to Geography distance learning Master's in Geographic Education program" Poster presented at the NCGE Annual Meeting, Vancouver, Canada.

May 2001. "The purpose of the International Network for Learning and Teaching Geography in Higher Education." Paper presented at the Second Grosvenor Center International Symposium on Research in Geographic Education, San Marcos, TX.

March 2001. "Differential adoption of Internet-based teaching practices in college geography." Paper presented at the AAG Annual Meeting, New York, NY.

January 2001. "Using inquiry to teach global issues Internationally on the Web." Workshop at the Second Symposium of the International Network for Learning and Teaching, Plymouth, England.

April 2000. "Choosing the network less traveled: perceptions of Internet-based teaching in college geography." Paper presented for the Nystrom Geography Dissertation Competition at the AAG Annual Meeting, Pittsburgh, PA.

November 1999. "Under constructivism: teaching geography on the Web." Paper presented at the NCGE Annual Meeting, Boston, MA.

May 1999. "Geography faculty member perceptions of Internet-based teaching." Paper presented at the First Grosvenor Center International Symposium on Research in Geographic Education, San Marcos, TX.

March 1999. "The Virtual Geography Department: assessing an agent of change in geography education." Paper presented at the AAG Annual Meeting, Honolulu, HI.

March 1998. "The societal implications of Geographic Information Science education." Paper presented at the AAG Annual Meeting, Boston, MA.

October 1997. "Proposed dissertation research: The diffusion of instruction with the Internet in U.S. college geography." Paper presented at the NCGE Annual Meeting, Orlando, FL.

March 1997. "Modules as models: educational analogues for Internet-based instructional materials." Paper presented at the AAG Annual Meeting, Ft. Worth, TX.

April 1996. "The Geography of Greenhouse Gas Emissions: A Hands-On Module." Paper presented at the AAG Annual Meeting, Charlotte, NC.

March 1995. "Fire history of the Caribou Wilderness, Lassen National Forest, CA." Paper presented at the AAG Annual Meeting, Chicago, IL.